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SUPCRFUND OF THE REMEDIAL BRANCH

July 15, 2016

Mr. Gary Miller, Remedial Project Manager U.S. Environmental Protection Agency, Region 6 Superfund Division (6SF-RA) 1445 Ross Avenue, Suite 1200 Dallas, Texas 75202-2733

Re: San Jacinto River Waste Pits Superfund Site Monthly Progress Report No. 80 June 2016/July 2016 U.S. EPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS

Project Number: 150557-01

Dear Mr. Miller:

Attached please find the Monthly Progress Report No. 80 for June 2016/July 2016. This report was prepared on behalf of the International Paper Company and McGinnes Industrial Maintenance Corporation for the San Jacinto River Waste Pits Superfund Site in Channelview, Texas. Should you have any questions, please contact me at (228) 818-9626 or email me at dkeith@anchorgea.com.

Sincerely,

David C. Keith

Project Coordinator

Saviel C Kind

Steve Tzhone, USEPA cc:

Anne Foster, USEPA

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Monthly Progress Report No. 80 June 2015/July 2016 Submitted July 15, 2016

San Jacinto River Waste Pits Superfund Site USEPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS Channelview, Texas

The Unilateral Administrative Order (UAO) for the Remedial Investigation/Feasibility Study (RI/FS) at the San Jacinto River Waste Pits Superfund Site (Site) in Channelview, Texas, (USEPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS) was issued on November 20, 2009. The Respondents include International Paper Company (IP) and McGinnes Industrial Maintenance Corporation (MIMC).

A. Summary of Work Performed - June 2016/July 2016

The Respondents, Anchor QEA, and Integral Consulting completed work on the following tasks:

- Submitted Monthly Progress Report No. 79 to the United States Environmental Protection Agency (USEPA) on June 15, 2016.
- Continued to coordinate with USEPA on its review of alternatives presented in the Draft Final Interim Feasibility Study (FS).
- Completed retrieval of groundwater samplers the week of June 11, 2015. Note, the sampler for well SJMW013 will be retrieved during the week of July 18, 2016, based on it having been installed later than other samplers.
- Provided USEPA a detailed schedule on July 1, 2016 for completing surface water and remaining tissue and sediment sampling.
- Provided USEPA an updated project database on July 11, 2016.
- Performed surface water sampling the weeks of July 1, 2016, and July 10, 2016.
- Provided USEPA a memorandum regarding final armored cap porewater sampler intervals on July 14, 2016, based on USEPA Dive Team sampler installation, and coordinated with USEPA on the porewater sampler retrieval scheduled for the week of July 18, 2016.
- As requested by USEPA, participated in a call with USEPA on July 14, 2016 to discuss performing a potential early action at the Site.

B. Summary of Agency Communications

The written communications between Respondents and USEPA subsequent to the issuance of the UAO are summarized in the attached Table 1.

C. Summary of Sampling Results

Received results for quality control samples for the groundwater and one porewater sampler. Table 2 provides a listing of the data files provided on CD.

Monthly Progress Report No. 80 June 2016/July 2016 Submitted July 15, 2016

San Jacinto River Waste Pits Superfund Site USEPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS Channelview, Texas

D. Problems, Delays, and Solutions

San Jacinto River Fleet Operations (SJRF)

As summarized in previous monthly reports for the RI/FS, the Respondents continue to be concerned about the potential impacts of the SJRF operations in the immediate vicinity of the Site. On January 2, 2013, Respondents submitted their comments on the Revised SJRF Draft Sampling and Analysis Plan via email to USEPA. The Respondents will continue to work with USEPA on this issue. Respondents will also continue to work with USEPA and SJRF, if necessary, should there be a need for access to the SJRF property for purposes of RI/FS activities. Those discussions would be based on prior communications in that regard, which are described in the monthly reports submitted under the Administrative Settlement Agreement and Order on Consent for Removal Action for the Site.

Field Sampling Schedule

On August 6, 2015, USEPA directed the Respondents to revise the Final RI/FS Work Plan, dated November 2010, or to prepare addenda to the Work Plan to address USEPA's request for additional sampling and analysis as part of the investigation of the Site. On September 30, 2015, the Respondents provided USEPA with a schedule for completing sampling and analysis plans (SAPs) and conducting associated field work, data analysis and reporting to fulfill USEPA's directive. The USEPA approved the schedule for submittal of draft Sampling and Analysis Plans (SAPs) relating to the future sampling at the Site on October 8, 2015. Porewater and sediment SAPs were submitted on October 23, 2015, and groundwater and surface water SAPs were submitted on November 20, 2015. The Respondents subsequently revised the SAPs in response to USEPA comments, and the revised SAPs have been approved by USEPA. The completion of the work required by the SAPs was partially dependent upon the USEPA Dive Team installation of porewater samplers, which was completed the week of May 16, 2016. The surface water SAP also defines specific flow conditions under which surface water sampling can occur, and the rain events in May and June of 2016, resulted in river flows that exceeded those specifications. In addition, some of the planned data collection for sediments and tissue were not completed because of Site conditions at the time such sampling events were scheduled to occur. The Respondents are working with USEPA on a weekly basis to coordinate completion of the surface water, sediment and tissue sampling as quickly as possible and provided USEPA an updated schedule for completing that work on July 1, 2016.

Monthly Progress Report No. 80 June 2016/July 2016 Submitted July 15, 2016

San Jacinto River Waste Pits Superfund Site USEPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS Channelview, Texas

E. Projected Work for Next Two Reporting Periods - July 2016/September 2016

The Respondents, Anchor QEA, and Integral Consulting expect to conduct the following tasks during the remainder of July 2016 through September 2016:

- Continue to participate in and support USEPA on community awareness and outreach issues.
- Continue, in light of USEPA's decision to assume responsibility for the FS (as communicated by USEPA's Remedial Project Manager to Respondent's Project Coordinator in a phone call on April 5, 2016), to address any questions and comments of USEPA regarding the Draft Final Interim FS as they arise and to support USEPA as needed as it finalizes the FS.
- Completion of field work on groundwater, porewater, surface water, sediment, and tissue SAPs.
- Perform laboratory coordination, data validation and data management tasks with new data as it is received.
- Evaluate and respond to USEPA's request that Respondents perform a potential early action.

F. Schedule

The Draft Final Interim FS was submitted to USEPA on March 21, 2014, and reviews of the Draft Final Interim FS by USEPA and the USACE have been ongoing.

A schedule was provided to USEPA for review on May 12, 2016 and was attached to Monthly Progress Report No. 78 submitted on May 16, 2016. That schedule provided milestones related to the sampling and analysis plans implementation, data analysis and reporting, subject to changes related to rain and flow events in the San Jacinto River watershed and the need to adjust deadlines as a result of conditions encountered during field work, the timing of responses and approvals on the part of USEPA and other circumstances. For purposes of this report, that schedule has been updated based on sampling completed and other activities that have occurred during the last 30 days and is attached (Updated Schedule). Milestones and deadlines in the Updated Schedule are subject to changes related to rain and flow events in the San Jacinto River watershed and the need to adjust deadlines as a result of conditions encountered during field work, the timing of responses and approvals on the part of USEPA and other circumstances.

Monthly Progress Report No. 80 June 2016/July 2016 Submitted July 15, 2016 San Jacinto River Waste Pits Superfund Site USEPA Region 6, CERCLA Docket No. 06-03-10 UAO for RI/FS Channelview, Texas

On April 5, 2016, USEPA Remedial Project Manager notified Respondent's Project Coordinator that USEPA would be finalizing the FS for the Site. The final RI/FS schedule will depend on completion of the work associated with the SAPs, and USEPA's completion of the FS.

Prepared by:
David C. Keith
Project Coordinator

	er Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
12/4/2009	Required Notifications pursuant to Paragraphs 51 and 75 of UAO	None	NA	Provided notice of intent to comply and "sufficient cause" defenses and identified Project Coordinator
12/7/2009	Copies of Letters to McGinnes Heirs Regarding Site Access	None	NA	
12/10/2009	Draft Scoping Meeting Minutes	None	NA	
12/14/2009	Copy of Response from Big Star Barge & Boat Company Regarding Site Access	None	NA	
12/15/2009	Monthly Progress Report No 1	None	NA	
12/18/2009	Status Report on Site Access	1/12/2010	Actions to date did not constitute "best efforts" to gain access	Respondents and EPA spoke regarding the matter in further detail on 1/8/10
12/21/2009	HASP	None	NA	
12/21/2009	Anchor QMP	None	NA	
12/21/2009	Integral QMP	None	NA	
1/7/2010	Request for comments regarding access agreement for Big Star Barge & Boat Company	None	NA	
1/11/2010	Proposed Draft AOC for time critical removal action	1/12/2010	Respondents' proposed AOC has been forwarded to headquarters and Philip Allen for comment Time critical removal action requires imminent and substantial endangerment finding	
1/12/2010	Copy of Consent Form for Site Access from Big Star Barge & Boat Company	None	NA	
1/12/2010	Notice of UAO Deficiency	None	Actions to date did not constitute "best efforts" to gain access	
1/13/2010	Draft Sediment Sampling and Analysis Plan Minutes	None	NA	
1/13/2010	Draft Database and Data Exchange Minutes	None	NA	
1/15/2010	Monthly Progress Report No 2	None	NA	
1/15/2010	Update Regarding Respondents' Efforts to Obtain Access Agreement, Response to Letter from Barbara Nann and Request for Extension	1/21/2010	Efforts to obtain Site access are "encouraging"	
1/20/2010	Correspondence from Port of Houston Authority regarding access	None	NA	
1/21/2010	Copies of Site Access Letter From Attorney for McGinnes Heirs	1/22/2010	EPA requested another copy of the letter	

Respondents Submittal	Respondents Communication Summary	Response from USEPA	USEPA Communication Summary	Notes
Date	Communication Summary	Date	USELIA COmmunication Summary	TVOTES
1/21/2010	Correspondence with Port of Houston Authority Regarding revised fence alignment	None	NA	
1/22/2010	Copies of Site Access Letter From Attorney for McGinnes Heirs	None	NA	
1/25/2010	Copies of Letters Sent to Gary Gladfelter and Tanya Ammons Regarding Site Access	None	NA	
1/27/2010	Draft 1/20/10 Alignment Meeting Minutes	None	NA	
1/27/2010	Copy of Correspondence with Big Star Barge & Boat Company Regarding Site Access	None	NA	
1/27/2010	EPA's response to Respondents' proposed AOC regarding Time Critical Removal Action	None	EPA will give Respondents additional time to respond as to whether Group wants to enter into AOC for Site stabilization	
1/29/2010	Copy of Revised Consent Form for Site Access from Big Star Barge & Boat Company	None	NA	
2/2/2010	Copy of Correspondence with Big Star Barge & Boat Company Regarding Site Access	None	NA	
2/4/2010	Respondents' proposed changes/comments on proposed AOC for Time Critical Removal Action	3/5/2010	Awaiting finalization of action memo for site stabilization before making additional changes to the AOC for site stabilization	
2/10/2010	Draft Memorandum San Jacinto River Waste Pits Superfund Site Time Critical Removal Action	Non	NA	
2/11/2010	Copy of Revised Consent Form for Site Access from Big Star Barge & Boat Company	None	NA	
2/11/2010	Copy of executed Consent Form for Site Access from Big Star Barge & Boat Company	2/17/2010	EPA approved of the form and will await an access agreement allowing for the RI/FS to take place	
2/15/2010	Monthly Progress Report No 3	None	NA	
2/16/2010	Draft Sediment Sampling and Analysis Plan/QAPP	None	Comments received March 10, 2010	
2/16/2010	Correspondence to EPA regarding update to Respondents' efforts to obtain access to the site	None	NA	
2/17/2010	Submitted the Agency Review Draft of the Quality Assurance Project Plan and Field Sampling Plan for Sediment Sampling	Consolidated comments received on March 10, 2010	Follow up meeting conducted with EPA, TCEQ and Trustees on March 16 and comment/response table developed for submittal with Draft Final report	Draft Final document submitted on 4/9/2010

San Jacinto Ri	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
2/18/2010	Sampling Plan for sediment sampling on February 17, 2010	2/19/2010	EPA will forward for review to EPA's financial assurance expert	
2/18/2010	Correspondence from MIMC regarding financial assurance bond	2/19/2010	EPA will forward for review to EPA's financial assurance expert	
2/19/2010	Copy of presentation regarding Short-Term Communications Plan	None	NA	
2/22/2010	Letter to Barbara Nann regarding MIMC's responsibility to provide access to the V C McGinnes, Trustee tract	None	NA	
3/18/2010	Draft Sediment Sampling and Analysis Plan Comment Review Meeting Minutes March 16, 2010, TCEQ, Austin Texas	None	NA	
4/7/2010	Draft Field Sampling Plan and Job Safety Analyses for the TCRA sampling	None	NA	This sampling was requested by EPA in an email on March 26, 2010
4/9/2010	Submitted the Draft RI/FS Work Plan and SLERA	June 3, 1010	Comments received from EPA by email	
4/9/2010	Submitted the Draft Final of the Quality Assurance Project Plan and Field Sampling Plan for sediment sampling	None	NA	
4/15/2010	Submitted Monthly Progress Report No 5 on April 15, 2010	None	NA	
		4/26/2010	Approval letter from EPA for implementation of the RI/FS Sediment QAPP/SAP	Agency requested replacement pages for Final QAPP/SAP
4/30/2010	Submitted replacement pages to EPA, TCEQ and the trustees for the Final SAP/QAPP on April 30, 2010	None	NA	
5/11/2010	Submitted the Draft Chemical Fate and Transport Modeling Study design and sampling and analysis plan addendum on May 11	None	NA	
5/14/2010	Submitted a Soil Sampling and Analysis Plan for the TxDOT right-of-way to TxDOT and EPA	None	NA	Submitted to TxDOT as part of effort to obtain access into the TxDOT right-of-way for RI/FS and TCRA activities

San Jacinto Ri	San Jacinto River Waste Pits Superfund Site					
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes		
5/17/2010	Submitted Monthly Progress Report No 6 on May 17, 2010	None				
5/21/2010	Submitted revised TxDOT right-of-way sampling and analysis plan	None		Comments received from TxDOT on May 25, 2010		
5/25/2010	Submitted email outlining sediment sampling and analysis deviations	5/26/2010	EPA agreed to recommendations and asked that human health locations on west bank be reconsidered	Human health locations on west bank moved with EPA concurrence in email on May 28, 2010		
5/27/2010	Submitted revised TxDOT right-of-way sampling and analysis plan	None		TxDOT approved the revised sampling and analysis plan on June 11, 2010		
5/28/2010	Submitted email summary of VOC data from sediment sampling	5/28/2010	EPA concurred that no further VOC analyses were required			
6/7/2010	Response to 6/4/10 email from Barbara Nann regarding access for 3 soil samples in western impoundment	None				
6/11/2010	Submitted Draft Tissue Sampling and Analysis Plan and Draft Technical Memorandum on Bioaccumulation Modeling on June 11, 2010	None				
6/15/2010	Submitted Monthly Progress Report No 7 on June 15, 2010	None				
6/25/2010	Submitted comments and responses on Draft RI/FS Work Plan	None				
7/9/2010	Submitted Revised Draft RI/FS Work Plan	7/12/2010 8/26/2010	Email from B Nann forwarding edits to RI/FS work plan Email from Steve Tzhone with additional comments concerning Site History and soil sampling in the area of former impoundments south of I-10			
7/15/2010	Submitted Monthly Progress Report No 8 on July 15, 2010	None				

	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
7/27/2010	Provided EPA a draft response to comments on the Draft Fate and Transport Memorandum Review	8/12/2010	Email from S Tzhone forwarding two additional comments on the Fate and Transport Modeling Memorandum	
8/16/2010	Submitted Monthly Progress Report No 9 on August 16, 2010	None		
8/17/2010		8/31/2010 9/7/2010	Email from S Tzhone approving the revised response to comments and authorizing submittal of the Final Draft document Email from S Tzhone providing comments from USGS on sampling and analysis plan and direction to incorporate comments as EPA comments by phone Comments need to be addressed prior to implementing field work	
8/18/2010	Submitted Draft Addendum to the Sampling and Analysis Plan (SAP) Sediment Study	8/23/2010	Email from S Tzhone approving the addendum SAP and authorizing sampling in Cedar Bayou	
8/18/2010	Submitted revised response to comments on the Bioaccumulation Modeling and Tissue Sampling and Analysis Plan	8/31/2010	Email from S Tzhone approving the revised response to comments and authorizing submittal of the Final Draft documents	
8/19/2010	Submitted Draft Meeting Minutes - Agency Comments on Tissue SAP and Technical Memorandum on Bioaccumulation Modeling	None		
9/3/2010	Submitted Draft Final RI/FS Work Plan	10/7/2010	Letter of deficiency from S Tzhone requiring Respondents to incorporate EPA's Comment Number 4 (sampling of south impoundment) provided to the respondents on August 26, 2010, as part of the RI/FS	Respondents have 14 days to comply from the date of the letter

	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
9/9/2010	Submitted letter to Steve Tzhone regarding Site Warning and Protective Measures	9/1/2010	Email from S Tzhone approving the proposed scope of work for additional fencing and signs and requesting clarification and final design for impoundment signs and buoy placement	
9/10/2010	Submitted letter to Steve Tzhone and Barbara Nann concerning MIMC's participation in soil sampling in the area of former impoundment south of I-10	10/8/2010	Letter to MIMC counsel from B Nann expressing disagreement with MIMC's letter and reiterating position that south impoundment must be sampled	
9/10/2010	Submitted the Draft Soil Sampling and Analysis Plan for the RI/FS	None		
9/10/2010	Submitted Draft Final Tissue SAP, and Draft Final Technical Memorandum on Bioaccumulation Modeling		·	
9/15/2010	Submitted Monthly Progress Report No 10 on September 15, 2010	10/7/2010	Letter of deficiency from S Tzhone requiring Respondents to submit all raw data with monthly progress reports	Respondents have 14 days to comply from the date of the letter
9/16/2010	Submitted letter outlining proposed buoy and warning signs at impoundments	9/16/2010	Email from S Tzhone approving final design for signs and buoy system	

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
9/23/2010	Submitted an email with clarifications required for the final Sampling and Analysis Plan Tissue Study on the following topics Laboratory Certification, selection of tissue analytes, and a few editorial changes to the tables and text re lipid analysis methods	9/24/2010	Email from Steve Tzhone indicating that EPA agreed with the response to EPA's concerns about laboratory certification, and agreeing to the proposed edits EPA approved the final Tissue SAP and Technical Memorandum on Bioaccumulation Modeling on September 24, 2010	
9/28/2010	Submitted Final Sampling and Analysis Plan Tissue Study and Final Technical Memorandum on Bioaccumulation Modeling on September 28, 2010	9/29/2010	EPA approved of the Tissue SAP Addendum	
9/30/2010	Submitted Draft TxDOT Right-Of-Way Data Report on September 30, 2010	None		
10/1/2010	Submitted Draft Groundwater QAPP and FSP on October 1, 2010	None		,
		10/7/2010	Email from B Nann regarding status of access efforts	
		10/11/2010	Email from B Nann encouraging diligent efforts on access	
10/13/2010	Email to B Nann regarding the status of access efforts and need for a conference call between TxDOT, EPA and respondents to discuss	10/14/2010	Email from B Nann agreeing to conference call	
10/15/2010	Submitted Monthly Progress Report No 11 on October 15, 2010			
10/18/2010	IP Letter responding to NOD regarding south area investigation			

Summary of Agency Communication

San Jacinto River Waste Pits Superfund Site					
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
10/20/2010	Submitted revised monthly reports for June, July, August, and September 2010 and accompanying raw data on discs				
10/21/2010	MIMC letter responding to NOD regarding south area investigation				
10/21/2010	Joint letter responding to NOD regarding raw data				
10/21/2010	Submitted Draft Final RI/FS Work Plan	11/2/2010	Draft Final RI/FS Work Plan approval letter from S Tzhone provided by email		
		10/25/2010	Email from B Nann approving use of TxDOT right-of-way for gravel road		
		10/29/2010	Received certified letter from B Nann regarding UAO deliverables		
11/1/2010	Certified letter to B Nann from IP counsel detailing Respondents' efforts to obtain Site Access Agreements with TxDOT and Big Star Barge and Boat				
		11/2/2010	Received certified letter from B Nann regarding best efforts for obtaining Site Access		
		11/3/2010	Email from S Tzhone to D Keith expressing concerns with field sampling procedures used during the week of October 25, 2010		

Summary of Agency Communication

San Jacinto River Waste Pits Superfund Site					
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
11/5/2010	Email from D Keith to S Tzhone regarding compliance with UAO deliverable procedures and proposed future deliverable procedures	11/5/2010	Email from S Tzhone to D Keith concurring with proposed procedures		
		11/8/2010	Email from B Nann concurring with proposed procedures		
11/8/2010	Email from D Keith to S Tzhone concerning revisions to field procedures to be used in the future				
11/8/2010	Re-submitted Revised Draft Groundwater Study SAP	11/22/2010	Email from S Tzhone with comments on Groundwater SAP		
11/8/2010	Re-submitted Draft Soil Sampling and Analysis Plan	11/22/2010	Email from S Tzhone with comments on Soil SAP	Additional comments received from S Tzhone on 11/30/2010	
11/12/2010	Certified letter to B Nann from Al Axe reiterating and detailing Respondents' efforts to obtain Site Access Agreements with TxDOT and Big Star Barge and Boat				
11/15/2010	Submitted Monthly Progress Report No 12 on November 15, 2010				
11/30/2010	Submitted Draft Final Comment/Response Matrix of the Fate and Transport Modeling Memorandum	12/8/2010	Email from S Tzhone approving the Draft Final Comment/Response matrix		
11/30/2010	Transferred preliminary Big Star soils data to USEPA as a mix of excel and PDF files via email, and then submitted the complete preliminary invalidated data to USEPA via email December 1, 2010				
12/6/2010	Submitted Draft Comment/Response Matrix for Groundwater SAP	12/14/2010	Email from S Tzhone approving the Draft Final Comment/Response matrix		

San Jacinto Riv	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
12/9/2010	Submitted Draft Comment/Response Matrix for Soil SAP			
12/15/2010	Submitted Monthly Progress Report No 13 on December 15, 2010			
12/16/2010	Submitted the Draft Final Groundwater Study Sampling and Analysis Plan on December 16, 2010	12/23/2010	Email and letter from S Tzhone approving the Groundwater Study Sampling and Analysis Plan	Requested final copies be provided to remove "Draft" from "Draft Final" - implementation of field work approved
12/17/2010	Submitted the Draft Final Chemical Fate and Transport Modeling Memorandum December 17, 2010	1/10/2011	Email and letter from S Tzhone approving the Chemical Fate and Transport Modeling Memorandum	Requested final copies be provided to remove "Draft" from "Draft Final"
12/17/2010	Submitted an Addendum to the Soil SAP to describe a soil investigation in the area South of I-10 on December 17, 2010	1/18/2011 2/3/11	Emailed letter from S Tzhone providing comments to the Draft Addendum to the Soil SAP Additional comments from TCEQ on Draft Addendum to the Soil SAP received from S Tzhone by email	Conference calls to discuss comments with agencies on January 25 and February 7
12/22/2010	Submitted the Draft Final Sampling and Analysis Plan Soil Study on December 22, 2010	1/10/2011	Email and letter from S Tzhone approving the Sampling and Analysis Plan Soil Study	Requested final copies be provided to remove "Draft" from "Draft Final"
1/13/2011	Submitted Final Groundwater Study Sampling and Analysis Plan			
1/13/2011	Submitted Final Chemical Fate and Transport Modeling Memorandum			
1/14/2011	Submitted the Final Sampling and Analysis Plan Soil Study			
1/14/2011	Submitted Monthly Progress Report No 14			
1/24/2011	Email from D Keith to S Tzhone regarding schedule for soil sampling activities			
1/27/2011	Letter from IPs counsel submitted to USEPA regarding International Papers efforts to obtain access for the south area investigation			

Summary of Agency Communication

San Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
1/27/2011	Provided USEPA a compilation of historical aerial photographs of the project area on the project web portal			
2/1/2011	Submitted a DVD containing all draft documents for the SJRWP RI/FS submitted to USEPA via the project portal through January 25, 2011			
2/11/2011	Submitted Draft Contaminants of Potential Concern Memorandum	3/10/2011	Received comments on Draft COPC Technical Memorandum	
2/14/2011	Submitted Draft Revised RI/FS Schedule	2/15/2011	Approval letter from EPA for revised RI/FS schedule	
2/15/2011	Submitted Monthly Progress Report No 15			
2/15/2011	Submitted the Draft Bed Property Study Field Sampling Plan	3/3/2011	Received emailed comments from S Tzhone on Draft Bed Property Study FSP	
2/15/2011	Submitted the Draft Bathymetry Survey Field Sampling Plan	3/3/2011	Received emailed comments from S Tzhone on Draft Bathymetry Survey FSP	
2/22/2011	Submitted Draft Final Sampling and Analysis Play, Soil Study Addendum 1	3/4/2011	Approval letter from USEPA for Draft Final Sampling and Analysis Play, Soil Study Addendum 1	
3/2/2011	Submitted Draft Current Velocity Study Field Sampling Plan			
3/8/2011	Submitted Draft Comment Response Matrices for the Draft Bed Property Study and Draft Bathymetry Survey FSPs	3/9/2011	Phone conversation with Steve Tzhone indicated that responses were approved	
3/9/2011	Submitted Final Sampling and Analysis Plan, Soil Study Addendum 1			
3/11/2011	Phone call from J Sampson (proxy for D Keith) to S Tzhone to report field observations of a petroleum odor and oily sheen on some subsurface soil samples from the south impoundment soil study area	3/11/2011	Received an email from S Tzhone acknowledging the phone report, and with direction to 1) proceed with sampling according to the approved Soil SAP Addendum 1, and 2) to provide a summary report of field observations when the sampling event is complete	
3/15/2011	Submitted Monthly Progress Report No 16			

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Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
3/15/2011	Submitted the Draft Final Bed Property Study and the Draft Final Bathymetric Survey Field Sampling Plans	3/21/2011	Approval letter from USEPA for Draft Final Bed Property Study and the Draft Final Bathymetric Study FSP	
3/16/2011	Submitted the Draft Sedflume Study FSP, the Draft Radioisotope Coring Study FSP, and the Draft Upstream Sediment Load Study FSP	4/8/2011	Received emailed comments from S Tzhone on the Draft Sedflume Study FSP, the Draft Radioisotope Coring Study FSP, and the Draft Upstream Sediment Load Study FSP	Conference call to discuss comments with agencies on April 15, 2011
3/16/2011	Submitted Field Report on south impoundment soil sampling			
3/18/2011	Submitted a letter to USEPA on behalf of International Paper regarding the completion of the south impoundment sampling			
3/25/2011	Submitted the Final Bed Property Study and the Final Bathymetric Survey Field Sampling Plans			
3/28/2011	Submitted the Draft Comment/Response Matrix for the Draft Current Velocity Study Field Sampling Plan	4/6/2011	Received emailed comments from S Tzhone with two additional comments on the Draft Current Velocity Study FSP	
		3/29/2011	Received emailed letter from S Tzhone requesting Respondents participate in Residential Soil Sampling as part of USEPA's Community Engagement Initiative	Respondents provided USEPA their response to this request on April 15, 2011
3/30/2011	Submitted the Draft Comment/Response matrix with responses to USEPA comments on the COPC Technical Memorandum	4/1/2011	Conference call with USEPA to discuss comments	
4/7/2011	Submitted an email request for assistance in obtaining Quality Assurance Project Plan and laboratory validation packages for the TCEQ Total Maximum Load programs. These documents are necessary to meet all requirements of USEPA comments on the COPC Technical Memorandum			
4/8/2011	Submitted Revised Comment/Response Matrix for USEPA comments on the COPC Technical Memorandum	5/5/2011	Received approval letter from Carlos Sanchez for Gary Miller on the Draft COPC Technical Memorandum	

	San Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
4/8/2011	Submitted the Draft Final Current Velocity Study FSP	5/3/2011	Received approval letter from Carlos Sanchez for Gary Miller on the Draft Final Current Velocity Study Field Sampling Plan		
4/14/2011	Submitted the Draft Comments/Responses matrices for the Draft Sedflume Study, Draft Radioisotope Coring Study, and the Draft Upstream Sediment Load Study Field Sampling Plans	4/15/2011	Conference call with USEPA to discuss comments		
4/15/2011	Submitted Monthly Progress Report No 17				
4/15/2011	Provided USEPA and TCEQ Site groundwater data maps and tables associated with implementation of the north impoundment Groundwater Field Sampling Plan				
		4/19/2011	Received letter from Carlos Sanchez notifying Respondent's that USEPA has changed the designated EPA Project Coordinator under the UAO to M Gary Miller effective April 19, 2011		
4/25/2011	Submitted Draft Final Upstream Sediment Load Field Sampling Plan	5/5/2011	Received phone request from Gary Miller to provide redline/strikeout version of Word document for EPA review	Provided redline strikeout version of document for review by email from Teri Freitas on behalf of David Keith	
4/28/2011	Submitted Draft Final Radioisotope Coring Study Field Sampling Plan	5/5/2011	Received approval letter from Carlos Sanchez on behalf of Gary Miller for the Draft Final Radioisotope Coring Study Field Sampling Plan		
		4/29/2011	Received email from Gary Miller with three additional questions on the Draft Sedflume Study Field Sampling Plan		
5/5/2011	Submitted Draft Final Sedflume Field Sampling Plan	5/20/2011	Received approval letter from USEPA on the Draft Final Sedflume Study Field Sampling Plan		

Summary of Agency Communication

San Jacinto Ri	ver Waste Pits Superfund Site		an Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes			
5/9/2011	Submitted Final Current Velocity Study Field Sampling Plan						
5/9/2011	Submitted Final Radioisotope Coring Study Field Sampling Plan			100 March 100 Ma			
5/16/2011	Submitted Monthly Progress Report No 18						
		5/18/2011	Received approval letter from USEPA on the Draft Final Upstream Sediment Load Field Sampling Plan				
		5/23/2011	Received letter from Gary Miller directing Respondents sample residential soils in the area	Respondents provided USEPA their response to this request on May 31, 2011			
5/24/2011	Submitted Final Upstream Sediment Load Study Field Sampling Plan						
5/24/2011	Submitted Final Sedflume Field Sampling Plan						
5/25/2011	Submitted email request to USEPA for approval to begin monitoring well decommissioning	6/2/2011	Received email approval from Gary Miller to proceed with this work in accordance with the work plan				
5/27/2011	Submitted all Working Documents from the SJRWP Site Portal on DVD						
6/10/2011	Submitted Draft Soil Sampling and Analysis Plan Addendum 2	7/19/2011	Received draft approval and comments on the Draft Addendum 2 Sampling and Analysis Plan for Residential Soil Sampling	This is the sampling and analysis plan for residential soil sampling. The sampling and analysis plan was approved with modifications noted in the letter from USEPA.			
6/14/2011	Posted an updated Site database to the project web portal						
6/15/2011	Submitted Monthly Progress Report No 19						
7/15/2011	Submitted Monthly Progress Report No 20						
7/20/2011	Correspondence between MIMC counsel and USEPA regarding draft Preliminary Site Characterization Report and south impoundment issue						

San Jacinto Riv	San Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
7/20/2011	Correspondence between International Paper counsel and USEPA regarding draft Preliminary Site Characterization Report and south impoundment issue				
7/20/2011	Submitted the Draft Preliminary Site Characterization Report				
7/21/2011	Submitted Field Sampling Report 2010 Sediment Study				
7/21/2011	Submitted Field Sampling Report Tissue Study				
7/21/2011	Submitted Field Sampling Report 2010-2011 Soil Study				
7/21/2011	Submitted Field Sampling Report Groundwater Study				
7/22/2011	Submitted letter to USEPA regarding modeling schedule - due to drought in the Houston area	10/19/2011	Received letter from Gary Miller approving change in submittal date for the Chemical Fate and Transport Modeling Study to February 1, 2012		
7/25/2011	Submitted a Final Addendum 2 to the Soil Sampling and Analysis Plan for Residential Sampling				
7/25/2011	Provided USEPA draft language for an information sheet for residential sampling				
		7/29/2011	Received email from Steve Tzhone regarding potential CenterPoint Energy pipeline planned for construction within the project area		
8/1/2011	Email from Respondents' Project Coordinator to USEPA transmitting draft consent to access for residential sampling				
		8/2/2011	Received copy of email prepared by USEPA counsel regarding comments on draft consent to access for residential sampling		

Summary of Agency Communication

San Jacinto Riv	San Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
		8/2/2011	Email from A Foster to Respondents' counsel transmitting draft letters designating Respondents as EPA's representatives for Big Star access		
		8/3/2011	Email from A Foster to Respondents' counsel transmitting copy of letter from EPA to San Jacinto River Fleet regarding its activities at the Site, expressing intent to pursue access from Big Star/San Jacinto River Fleet, and requesting summary of Respondents' problems in obtaining access from Big Star		
		8/3/2011	Email from A Foster to Respondents' counsel regarding fact sheet associated with residential sampling		
8/3/2011	Submitted email to Gary Miller requesting change to approved Addendum 2 to the Soil Sampling and Analysis Plan. The requested revision involved a change from archiving deeper samples to including a second potential soil sampling mobilization and collection of deeper samples if required based on the results of the surface sampling. The revision was requested on the basis of a meeting between USEPA and Respondents on August 3, 2011 during which it was decided to limit the underground utility locate effort prior to mobilization for sampling so that sampling could occur sooner.	8/3/2011	Received email from Gary Miller approving proposed change to residential soil sampling and requesting a revised final soil sampling plan addendum		
8/3/2011	Email between MIMC counsel, on behalf of Respondents, and USEPA regarding revised version of consent to access for residential soil sampling				

San Jacinto Ri	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
8/3/2011	Email between MIMC counsel, on behalf of Respondents, and USEPA regarding revised version of consent to access for residential soil sampling and providing contact information for lessee of Big Star property and for Big Star counsel			
8/4/2011	Submitted Revised Addendum 2 to the Soil Sampling and Analysis Plan for Residential Sampling			
8/8/2011	Submitted Memorandum to Gary Miller outlining data gap issues identified in the Draft Preliminary Site Characterization Report			A meeting was held with USEPA and other agencies in Austin on August 30, 2011 to discuss these issues. A revised memorandum was submitted on September 7, 2011 based on verbal comments received from USEPA following that meeting.
		8/9/2011	Email from A Foster to Respondents' counsel regarding revised letter of designation	
		8/10/2011	Email from J Hernandez to Respondents' counsel regarding revised letter of designation	
		8/10/2011	Received a draft letter from USEPA describing additional study in the area of the impoundment south of I-10	
8/15/2011	Submitted Monthly Progress Report No 21			
8/26/2011	Submitted preliminary unvalidated residential soil sampling data to USEPA			Followed electronic data deliverables from the analytical laboratory with an Excel summary spreadsheet on August 29, 2011
9/2/2011	Submitted validated residential soil sampling data to USEPA			

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
9/2/2011	Submitted email to Gary Miller and Valmichael Leos requesting clarification on a potential chemical monitoring program for the TCRA armored cap			In order to start the development of a sampling plan for this program, respondents need to know the following from USEPA (1) Is the use of passive SPME acceptable to USEPA for the cap monitoring (2) Will this program be conducted as part of the TCRA AOC or RI/FS UAO program, and (3) Who will be the lead contact from USEPA for development and approval of the TCRA chemical monitoring program
9/7/2011	Submitted a revised memorandum outlining data gap issues identified in the Draft Preliminary Site Characterization Report to reflect changes requested by USEPA			
9/11/2011	Submitted a Draft Fact Sheet for the Site to USEPA for consideration			This fact sheet was requested by USEPA
9/15/2011	Submitted Monthly Report No 22			
9/19/2011	Submitted Draft Addendum 1 to the Sediment Sampling and Analysis (SAP) for additional sediment sampling	10/3/2011	Received letter from Gary Miller providing conditional approval of the SAP	
9/19/2011	Submitted Draft Addendum 1 to the Tissue Sampling and Analysis Plan (SAP) for additional background catfish and crab sampling	10/3/2011	Received letter from Gary Miller providing conditional approval of the SAP	
9/21/2011	Submitted letter to USEPA regarding ADCP servicing issue and San Jacinto River Fleet Operations	10/19/2011	Received letter from Gary Miller to continue deployment of the acoustic doppler profiler and the re-deployment of the suspended sediment sampler when water is again flowing over the Lake Houston dam	
9/22/2011	Submitted Attachment B2 (Toxicity of Dioxin-Like Compounds to Invertebrates, Fish, Reptiles, Birds and Mammals) in Appendix B of the Final RI/FS Work Plan			
10/4/2011	Submitted Addendum 1 to the Sediment Sampling and Analysis (SAP) for additional sediment sampling			Addressed conditions outlined in conditional approval letter received on 10/3/2011

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
10/5/2011	Submitted Addendum 1 to the Tissue Sampling and Analysis Plan (SAP) for additional background catfish and crab sampling			Addressed conditions outlined in conditional approval letter received on 10/3/2011
10/12/2011	Submitted Draft Dioxin Treatability Study Literature Review			
10/14/2011	Submitted letter to USEPA regarding Field Studies Issues	11/10/2011	Received an email from Gary Miller to David Keith stating that after discussions with partner agencies, the request to remove the ADCP and discontinue data collection for the current velocity and upstream sediment load studies is approved	If a high flow event occurs, or appears likely at any time within the next two months, then the ADCP shall be re-installed and data collection for the current velocity and upstream sediment load studies resumed Based on the timing of any such high flow event during this time, a request for extension of the submittal date for the Fate and Transport Model Study will be considered to allow sufficient time for inclusion and evaluation of any new velocity and sediment load data
10/17/2011	Submitted Monthly Report No 23	. 20 1100 1		
		10/19/2011	Received letter from Gary Miller approving change in submittal date for the Chemical Fate and Transport Modeling Study to February 1, 2012	
10/28/2011	Email from Jennifer Sampson with Integral Consulting to Gary Miller requesting approval to include three additional samples with percent fines of 81 5, 82 3, and 83 2 be added to seven other samples from the Addendum 1 to the Sediment Sampling and Analysis (SAP) for analysis of dioxins and furans and organic carbon	11/1/2011	Email approval from Gary Miller to Jennifer Sampson for the analysis of additional samples as requested	
11/15/2011	Submitted Monthly Report No 24			
11/16/2011	Prepared and submitted a meeting summary for the proposed armored cap monitoring program to USEPA			

Summary of Agency Communication

	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
		11/16/2011	Received and reviewed draft comments from USEPA on the draft Preliminary Site Characterization Report (PSCR)	
		11/23/2011	Received and reviewed revised draft comments from USEPA on the draft PSCR	
		11/29/2011	Received and reviewed a draft letter from USEPA regarding comments and directives for additional sampling on the southern impoundment area on behalf of IP	
11/29/2011	Email from David Keith to Mr Miller forwarding technical literature on the use of sediment traps			
		12/1/2011	Received and reviewed a fingerprint analysis on the southern impoundment area from Mr Miller on behalf of IP The analysis was prepared by Dr Linda Broach with TCEQ	
12/5/2011	Provided copies of residential soil sampling consent forms to Mr Miller			
12/6/2011	Provided Mr Miller a table pairing residential soil sample identification numbers and physical street addresses			
		12/9/2011	Received a letter from Mr Miller providing conditional approval of the PSCR The letter further instructed the Respondents to provide a comment response matrix to USEPA for approval, followed by submittal of the Final PSCR	
		12/9/2011	Received a letter from Mr Miller providing final comments and directives for additional sampling in the southern impoundment area on behalf of IP	

	er Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
12/13/2011	Prepared and submitted a meeting summary for the Fate and Transport Modeling Workshop #2 to USEPA			
12/15/2011	Submitted Monthly Report No 25			
12/29/2011	On behalf of International Paper, submitted Draft Soil SAP Addendum 3, Draft Sediment SAP Addendum 2, and Draft Groundwater SAP Addendum 1			
1/3/2012	Submitted a draft matrix summarizing the Respondents proposed revisions to the PSCR to address USEPA comments received on December 8, 2011	1/5/2012	Received email from Mr Miller approving the proposed revisions to the PSCR	Revisions will be incorporated into the Final PSCR
		1/5/2012	Received approval in a phone call from Mr Miller on the conceptual TCRA chemical monitoring approach and was directed to develop a SAP for that program	
1/10/2012	Provided email notification to Mr Miller that the project database had been updated and posted the project web portal			
1/17/2012	Submitted Monthly Report No 26			
1/19/2012	Submitted the Draft Alternatives Memorandum, Draft Toxicological and Epidemiological Studies Memorandum, and Draft Exposure Assessment Memorandum			
2/1/2012	Submitted Chemical Fate and Transport Modeling Report on February 1, 2012			

Table 1 **Summary of Agency Communication** San Jacinto River Waste Pits Superfund Site Respondents Respondents Response from USEPA **USEPA Communication Summary** Submittal Communication Summary Notes Date Date Email from J Hernandez to Respondents' counsel forwarding draft pre-construction 2/9/2012 baseline site assessment work plan for San Jacinto River Fleet project ("SJRF Draft SAP") Submitted a letter to USEPA regarding revisions to 2/14/2012 the RI/FS schedule Email from J Hernandez to Respondents' 2/14/2012 counsel forwarding copy of USEPA letter to San Jacinto River Fleet dated 12/1/2012 Email from J Hernandez to Respondents' 2/15/2012 counsel regarding deadline for comments on the SJRF Draft SAP 2/15/2012 Submitted Monthly Report No 27 Submitted Final Preliminary Site Characterization 2/28/2012 Report on February 28, 2012 Received comments from Mr Miller on 1) Draft Addendum 1 to the Groundwater Study Sampling and Analysis Plan for Additional Sampling South of Interstate Highway 10 3/1/2012 2) Draft Addendum 2 to the Sediment Sampling and Analysis Plan for Additional Sampling South of Interstate Highway 10 3) Draft Addendum 3 to the Soil Sampling and Analysis Plan for Additional Sampling

South of Interstate Highway 10

San Jacinto Riv	San Jacinto River Waste Pits Superfund Site				
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
3/8/2012	Submitted a letter to USEPA regarding the Respondents' concerns about the San Jacinto River Fleet operations, and provided comments on the Draft SAP				
3/15/2012	Submitted Draft Baseline Ecological Risk Assessment on March 15, 2012				
3/15/2012	Submitted Monthly Report No 28				
4/2/2012	Submitted Soil SAP Addendum 3, Sediment SAP Addendum 2, and Groundwater SAP Addendum 1 to USEPA	4/11/2012	Received approval on the Soil Sampling and Analysis Plan (SAP) Addendum 3, Sediment SAP Addendum 2, and Groundwater SAP Addendum 1 from USEPA by letter and email from Gary Miller		
4/5/2012	Submitted cover letter and Revised Schedule for RI/FS deliverables to USEPA	4/11/2012	Received approval on the Revised RI/FS Schedule from USEPA by email from Gary Miller		
4/16/2012	Submitted Monthly Report No 29				
4/16/2012	Submitted Draft Sampling and Analysis Plan (SAP) for the TCRA Cap Porewater Assessment	5/9/2012	Received approval with modifications on the Draft SAP Time Critical Removal Action (TCRA) Cap Porewater Assessment on May 9, 2012		
		4/24/2012	Received comments from Gary Miller on the Draft Exposure Assessment Memorandum (EA) and the Draft Toxicological and Epidemiological Studies (TES) Memorandum	Received clarification on comments regarding the EA and TES Memos from USEPA by email to the Respondents' Project Coordinator on May 10, 2012	
		5/1/2012	Email from J Hernandez to Respondents' counsel regarding SJRF Draft SAP currently under USEPA review		
		5/8/2012	Received comments from USEPA on the Draft Chemical Fate and Transport Modeling Study		

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
5/15/2012	Submitted Monthly Report No 30			
		5/16/2012	Emails from J Hernandez to Respondents' counsel providing comments to the SJRF Draft SAP from NOAA, TCEQ, and the Harris County Pollution Control Services	
5/22/2012	Submitted Sampling and Analysis Plan (SAP) for the TCRA Cap Porewater Assessment			
5/22/2012	Submitted Final Exposure Assessment Memorandum and Final Toxilogical and Epidemiological Studies Memorandum to USEPA			
		6/6/2012	Received additional comments from USEPA on the Draft Chemical Fate and Transport Modeling Study	
		6/12/2012	Received copy of 6/12/2012 correspondence from USEPA to SJRF providing USEPA's comments to the SJRF Draft SAP	
6/13/2012	Provided USEPA a letter regarding the installation of two additional Performance Reference Compound samplers in the TCRA Cap Porewater Assessment implementation to provide an intermediate check on equilibrium conditions between the samplers and cap porewater on June 13, 2012			
6/15/2012	Provided USEPA a letter and updated RI/FS schedule on June 15, 2012			
6/15/2012	Submitted Monthly Report No 31	· -		
		6/22/2012	Received comments from USEPA on the Draft Baseline Ecological Risk Assessment	

Table 1
Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site
Respondents
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Respondents
Communication Summary

San Jacinto Ri	ver Waste Pits Superfund Site			
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
7/10/2012	Provided USEPA a letter outlining a process to resolve comments from USEPA on the draft BERA, and requested the draft final BERA be submitted on August 22, 2012	7/17/2012	Received approval letter from G Miller	
7/16/2012	Submitted Monthly Report No 32			
7/18/2012	Submitted Draft Final Chemical Fate and Transport Modeling Study	9/13/2012	Received approval of the Draft Final Chemical Fate & Transport on September 13, 2012, with requirements to address additional comments for the final report in the approval letter	Received clarification on modifications requested by USEPA on the Draft Final Chemical Fate and Transport Modeling Report by email from Gary Miller on September 25, 2012, conducted additional analyses, and prepared and submitted the final report to USEPA on October 11, 2012 Mr Miller agreed to extending the submittal due date on the Final Fate and Transport Modeling Report to allow time for the Respondents to conduct additional evaluations requested by EPA in the approval letter in a phone call with the Respondents Project Coordinator on October 3, 2012
		8/13/2012	Received comments from USEPA on the Draft Remedial Alternatives Memorandum	
8/15/2012	Provided email notification to Mr Miller that the project database had been updated and posted to the project web portal			
8/15/2012	Submitted Monthly Report No 33			
8/22/2012	Submitted Draft Final Baseline Ecological Risk Assessment	2/26/2013	Received conditional approval of Draft Final Baseline Ecological Risk Assessment	The approval letter provided by USEPA was date stamped February 7, 2013, however it was not transmitted to the Respondents until February 26, 2013 The approval letter included comments and directives from USEPA that require additional revisions be made in the final report

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
9/11/2012	Submitted Draft Final Remedial Alternative Memorandum	11/14/2012	Received approval of the Draft Final Remedial Alternatives Memorandum on November 14, 2012, with requirements to address additional comments for the report in the approval letter	
9/17/2012	Submitted Monthly Report No 34			
		10/4/2012	Received approval letter from G Miller for TES Memorandum	
		10/4/2012	Received approval letter from G Miller for the EA Memorandum	
10/4/2012	Provided email notification to Mr Miller that the project database had been updated and posted to the project web portal			Included validated Armored Cap Porewater Assessment Data
10/11/2012	Submitted the Final Chemical Fate and Transport Modeling Report to USEPA			
10/15/2012	Submitted Monthly Report No 35			
10/19/2012	On behalf of IP, provided USEPA with boring logs on the three South Impoundment monitoring wells, water table levels, and well construction information			
10/30/2012	Provided USEPA a draft summary presentation of the armored cap porewater monitoring evaluation and results to use in a planned community meeting			
11/14/2012	Provided USEPA a letter confirming that delivery of the draft RI Report and toxi on December 5, 2012 was approved, and providing an updated RI/FS schedule reflecting that change, and other associated changes in the Feasibility Study schedule that were made to maintain the overall project schedule	12/6/2012	Received email approval from Gary Miller that the November 2012 RI/FS schedule was approved as presented	

Summary of Agency Communication

Respondents	ver Waste Pits Superfund Site Respondents	· · ·	- 1	
Submittal	Communication Summary	Response from USEPA	USEPA Communication Summary	Notes
Date	, i	Date	·	
		11/14/2012	Received approval of the Draft Final Remedial Alternatives Memorandum on November 14, 2012, with requirements to address additional comments for the report in the approval letter	
11/15/2012	Submitted Monthly Report No 36			
12/3/2012	Submitted Final Remedial Alternatives Memorandum to USEPA			
12/5/2012	Submitted Draft Remedial Investigation Report and Draft Baseline Human Health Risk Assessment to USEPA Also submitted five field sampling reports including • Field Sampling Report 2011 – 2012 Sediment Study • Field Sampling Report 2011 Tissue Study • Field Sampling Report 2012 Soil Study • Field Sampling Report TCRA Cap Porewater Assessment • Field Sampling Report Addendum 1 Groundwater Study	3/25/2013	Received conditional approval of the Draft Baseline Human Health Risk Assessment	
12/17/2012	Submitted Monthly Report No 37			
1/2/2013	Respondents submitted their comments on the Revised San Jacinto River Fleet Draft Sampling and Analysis Plan, via email, to USEPA			
1/15/2013	Submitted Monthly Report No 38			
2/15/2013	Submitted Monthly Report No 39			
		2/26/2013	Received conditional approval of the Draft Final Baseline Ecological Risk Assessment	The approval letter provided by USEPA was date stamped February 7, 2013, however it was not transmitted to the Respondents until February 26, 2013 The approval letter included comments and directives from USEPA that require additional revisions be made in the final report
3/15/2013	Submitted Monthly Report No 40			

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
		3/25/2013	Received conditional approval of the Draft Baseline Human Health Risk Assessment (BHHRA) by email on March 25, 2013, followed by regular mail on March 28, 2013	
3/20/2013	Sent an email to USEPA to obtain clarification on USEPA comments number 4 and 8 on the Draft BERA Additional email correspondence between the Respondents and USEPA related to these comments occurred on April 10, 2013			USEPA is currently considering the Respondents latest findings related to these comments
4/1/2013	Respondents submitted a letter to USEPA explaining the nature of the possible delays regarding the November 2012 RI/FS Schedule			
		4/4/2013	Received conditional approval of the Draft Remedial Investigation (RI) Report by email on April 4, 2013, followed by regular mail on April 8, 2013	
4/4/2013	On behalf of IP, submitted the Draft Groundwater Sampling and Analysis Plan (SAP) Addendum 2 for additional groundwater investigations in the area south of I-10	4/23/2013	Received conditional approval of the Groundwater SAP Addendum 2	
4/8/2013	Respondents provided written notice required under Paragraph 92 with respect to possible delays in the performance of certain actions set forth in the approved November 2012 RI/FS Schedule			
4/10/2013	Sent an email to USEPA to follow up on correspondence related to USEPA comments number 4 and 8 on the Draft BERA			USEPA is currently considering the Respondents latest findings related to these comments
4/10/2013	Sent an email to USEPA to obtain clarification on the USEPA Guidance on the classification of Principal Threat Waste			USEPA is currently considering the Respondents inquiry

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
4/12/2013	Provided an email to USEPA requesting a meeting be conducted on April 24, 2013 to discuss USEPA comment 38 on the Draft RI Report			
4/15/2013	Submitted Monthly Report No 41			
4/26/2013	Submitted proposed revised RI/FS schedule to USEPA	5/14/2013	Received email approval of proposed revised RI/FS Schedule from USEPA	
4/29/2013	Submitted Final Groundwater SAP Addendum 2 to the USEPA			
5/6/2013	Submitted Final Baseline Ecological Risk Assessment to USEPA			
5/14/2013	Submitted letter to USEPA providing an evaluation of the potential classification of Principal Threat Waste at the Site			
5/15/2013	Submitted Monthly Report No 42			
5/21/2013	Submitted Final RI Report to USEPA			
5/22/2013	Submitted Final BHHRA Report to USEPA			
6/6/2013	Submitted corrected tables for the Final RI Report to USEPA			Included replacement pages for Tables 2-1, 6-1, 6-2, and 6-3
6/17/2013	Submitted Monthly Report No 43			
7/12/2013	Submitted proposed revised RI/FS schedule to USEPA	7/30/2013	Received approval of the July 2013 RI/FS schedule in an email from USEPA	
7/15/2013	Provided email notification to Mr Miller that the updated RI/FS database had been updated and posted to the project web portal			
7/15/2013	Submitted Monthly Report No 44			
8/15/2013	Submitted Monthly Report No 45			
8/27/2013	On behalf of International Paper, provided email summary to Mr Miller of validated dioxin and furan data in from groundwater samples collected south of I- 10 in July 2013			
8/30/2013	Submitted Draft Feasibility Study Report to USEPA	12/18/2013	Email from A Foster forwarding comments from TCEQ, Port of Houston, and Harris County on the Draft FS	

San Jacinto River Waste Pits Superfund Site					
Respondents	Respondents	Response from USEPA			
Submittal	Communication Summary	Date	USEPA Communication Summary	Notes	
Date		Date			
	Provided email notification to Mr Miller that the				
9/16/2013	updated RI/FS database had been updated and posted				
	to the project web portal			,	
9/16/2013	Submitted Monthly Report No 46				
10/15/2013	Submitted Monthly Report No 47				
11/15/2013	Submitted Monthly Report No 48				
11/21/2013	Submitted Draft Remedial Investigation (RI) Report				
11/21/2013	Addendum November 21, 2013				
12/16/2013	Submitted Monthly Report No 49				
	Submitted Field Sampling Report that summarizes				
1/14/2014	the field work associated with the latest investigations				
	conducted in the area south of I-10				
1/15/2014	Submitted Monthly Report No 50				
			Respondents' Project Coordinator received comments on the Draft FS from USEPA by		
		1/16/2014	email on Thursday, January 16, 2014, and by certified mail on Monday, January 20, 2014		
	Respondents submitted a letter to G Miller requesting				
1/30/2014	revision to Schedule for Submittal of the Final				
1/30/2017	Interim Feasibility Study				
·	Interim Fedstollity Study		Email from G Miller to D Keith (Project		
			Coordinator) responding to Anchor QEA's		
		1/31/2014	January 30, 2014 letter and granting		
		II JI II II VIT	extention of time for response to USEPA		
			comments on Draft FS to March 6, 2014		
			J Sampson of Integral received an email		
			from Philip Turner of USEPA requesting		
		2/4/2014	additional information on the relative		
			bioavailability adjustment factor used in the		
			risk assessment for the Site		
			Respondents' Project Coordinator received		
		2/10/2014	amended comments on the Draft FS from		
	}		USEPA by email, and directing the		
			Respondents to provide the Final Interim FS		
			on or before March 21, 2014		

Respondents	Respondents	<u> </u>		1
Submittal Date	Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
2/10/2014	Integral provided a letter to G Miller of USEPA providing detail on the technical foundation for the relative bioavailability adjustment factor on Monday, February 10, 2014			
2/17/2014	Submitted Monthly Report No 51			
3/11/2014	Provided USEPA input on a Draft Fact Sheet for the Site			
3/12/2014	Respondent's requested USEPA consider moving the April 28, 2014 NRRB presentation to the next available NRRB meeting in June 2014			
3/17/2014	Submitted Monthly Report No 52			
3/21/2014	Submitted Draft Final Interim Feasibility Study Report			
3/26/2014	Submitted a White Paper supplement to the Draft Final Interim Feasibility Study Report by email to Gary Miller			Submitted hard copies of White Paper with a transmittal letter on 4/7/2014
		4/1/2014	Received five questions from G Miller by email regarding alternatives in the Draft Final Interim Feasibility Study Report	
4/3/2014	Submitted a comment/response matrix to USEPA summarizing responses to comments on the Draft Feasibility Study Report			
4/15/2014	Submitted Monthly Report No 53			
4/29/2014	Provided an email response to questions received from Gary Miller by email on April 29, 2014, regarding shallow groundwater testing in the area south of Interstate 10			
5/2/2014	Provided an email response to questions received from Gary Miller by email on March 24, 2014, regarding shallow groundwater flow in the area south of Interstate 10			
5/5/2014 5/15/2014	Conducted a conference call and WebEx meeting with Gary Miller, USEPA's Remedial Project Manager to review and discuss questions regarding the Draft Final Interim FS contained in an April 2, 2014, email from Mr Miller Submitted Monthly Report No 54		110 - 710	
3/13/2014	Janoninaed Montiny Report NO 34	l		

Table 1

Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site

San Jacinto Ri	San Jacinto River Waste Pits Superfund Site					
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes		
6/5/2014	Coordinated with Gary Miller, USEPA's Remedial Project Manager, on questions related to the Draft Final Interim FS in a phone call on June 5, 2014					
6/16/2014	Submitted Monthly Report No 55					
6/20/2014	Submitted National Remedy Review Board (NRRB) materials on behalf of the Respondents					
7/15/2014	Submitted Monthly Report No 56					
		7/30/2014	Email from G Miller to D Keith regarding proposed plan schedule announcement			
8/15/2014	Submitted Monthly Report No 57					
		9/3/2014	Email from G Miller to D Keith seeking clarification on residential soil sampling results			
9/9/2014	Provided email response to G Miller providing clarification on residential soil sampling results	9/9/2014	Email from G Miller confirming that clarification was helpful			
9/15/2014	Submitted Monthly Report No 58					
10/15/2014	Submitted Monthly Report No 59					
10/31/2014	Submitted hydrodynamic, sediment transport, and chemical fate and transport modeling files and documentation to Dr Earl Hayter with the U S Army Corps of Engineers (USACE)					
		11/14/2014	Received an email from Gary Miller suggesting a call to discuss the Site Relative Bioavailability Adjustment (RBA)	Participated in a call with Mr Gary Miller and Dr Phillip Turner to discuss the RBA on November 24, 2014 A call with additional technical staff from USEPA and the Respondents was scheduled for December 16, 2014		
11/17/2014	Submitted Monthly Report No 60					
12/15/2014	Submitted Monthly Report No 61					

Table 1
Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
12/16/2014	Respondents hosted a meeting with Gary Miller and Phil Turner of USEPA Region 6, and several representatives of USEPA headquarters and their consultants on December 16, 2014 to discuss site-specific considerations relevant to the Relative Bioavailability Adjustment (RBA) factor used in the RI/FS for the site	12/17/2014		Provided USEPA with presentation materials on the Relative Bioavailability Adjustment issue
1/15/2015	Submitted Monthly Report No 62			
1/16/2015	Respondents provided follow up information requested from 12/16/2014 meeting regarding the RBA factor in a letter from D Keith to G Miller			
2/16/2015	Submitted Monthly Report No 63			
3/16/2015	Submitted Monthly Report No 64			
		4/9/2015	Respondents' project coordinator received an email from Gary Miller with request for clarifications for Paul Schroeder at USACE on modeling assumptions in the Draft Final Interim Feasibility Study	
4/15/2015	Submitted Monthly Report No 65			
4/22/2015	Respondents provided USEPA a summary of modeling assumptions for the Draft Final Interim Feasibility Study			
4/22/2015	Respondents provided USEPA analytical laboratory results and concentration data for dioxin and furan congeners from surface water sampling locations in the San Jacinto River	4/15/2015	Respondents' project coordinator received an email from Gary Miller with request for analytical laboratory results and concentration data for dioxin and furan congeners from surface water sampling locations in the San Jacinto River	
5/11/2015	Respondents provided USEPA a summary of laboratories utilized during the performance of the RI/FS	5/8/2015	Respondents' project coordinator received an email from Gary Miller with request for listing of laboratories used during the RI/FS	
5/15/2015	Submitted Monthly Report No 66			
6/15/2015	Submitted Monthly Report No 67			
7/15/2015	Submitted Monthly Report No 68			

Table 1

Summary of Agency Communication

San Jacinto River Waste Pits Superfund Site					
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes	
		8/6/2015	Received an email from G Miller directing Respondents to revise the Final RI/FS Work Plan dated November 2010 or prepare an addendum and submit to the USEPA within 30 days of receipt of the email		
		8/10/2015	Received the Evaluation of the San Jacinto Waste Pits Feasibility Study Remediation Alternatives report prepared by the U S Army Corps of Engineers in an email from Carlos Sanchez		
8/17/2015	Submitted Monthly Report No 69				
9/4/2015	In accordance with Section XXII, Paragraph 92 of the UAO, the Respondents notified USEPA on September 4, 2015, that they will not be able to produce sampling and analysis plans (SAPs) for surface water, porewater, sediment, and groundwater within 30 days as directed in Gary Miller's email dated August 6, 2015				
9/15/2015	Submitted Monthly Report No 70				
9/17/2015	Provided comments on the Evaluation of the San Jacinto Waste Pits Feasibility Study Remediation Alternatives report prepared by the U S Army Corps of Engineers				
9/30/2015	Provided USEPA a schedule for completing SAPs for sediment, porewater, groundwater, and surface water	10/8/2015	The USEPA approved the schedule for submittal of draft plans relating to the future sampling at the San Jacinto River Waste Pits Superfund Site. The porewater and the sediment sampling plans are due by October 23, 2015, and the ground water and surface water sampling plans are due by November 20, 2015. As directed by USEPA, the remaining schedule for the performance of the work will be considered during completion and approval of the work plans.		
10/15/2015	Submitted Monthly Report No 71				

Table 1
Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
10/23/2015	Submitted Draft Addendum 3 to the Sediment Sampling and Analysis Plan	1/29/2016	Received comments from USEPA on Draft Addendum 3 to the Sediment Sampling and Analysis Plan	
10/23/2015	Submitted Draft Addendum 1 to the Sampling and Analysis Plan TCRA Cap Porewater Assessment	1/12/2016	Received comments from USEPA on the Draft Addendum 1 to the Sampling and Analysis Plan (SAP) TCRA Cap Porewater Assessment	
11/16/2015	Submitted Monthly Report No 72			
11/20/2015	Submitted Draft Addendum 3 to the Groundwater Sampling and Analysis Plan	2/26/2016	Received comments from USEPA and Agencies on the Draft Addendum 3 to the Groundwater Sampling and Analysis Plan	
11/20/2015	Submitted the Draft Surface Water Sampling and Analysis Plan	2/16/2016	Received comments from USEPA by regular mail on the Draft Surface Water Sampling and Analysis Plan	
12/1/2015	Submitted a Draft updated Fact Sheet for the Site			
12/15/2015	Submitted Monthly Report No 73			
12/21/2015	Submitted a Draft Work Plan for collecting sediment samples from the surface of the armored cap	12/22/2015	USEPA approved components of the work plan related to sediment sampling	Sampling was conducted on 12/23/15
1/15/2016	Submitted Monthly Report No 74			
2/12/2016	Submitted a revised SAP for porewater that resolves comments received from USEPA on January 12, 2016			
2/12/2016	Submitted a draft report summarizing the results of sediment samples associated with the TCRA armored cap			
2/16/2016	Submitted Monthly Report No 75			
2/16/2016	Submitted Final Sampling and Analysis Plan, Addendum 1 TCRA Cap Porewater Assessment	2/23/2016	Received approval for the Final Sampling and Analysis Plan, Addendum 1 TCRA Cap Porewater Assessment	

Table 1
Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site

Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
2/29/2016	Submitted Final Sampling and Analysis Plan, Addendum 3 Sediment Study	3/16/2016	Received approval by email with required modifications for the Final Sampling and Analysis Plan Addendum 3 Sediment Study	
3/4/2016	Participated in a conference call with USEPA to discuss potential fish or shellfish tissue sampling at the Site			
3/15/2016	Submitted Monthly Report No 76			
3/17/2016	Prepared and submitted the Final Sampling and Analysis Plan Surface Water Study to USEPA	3/24/2016	Received approval by email for the Final Sampling and Analysis Plan Surface Water Study	
3/22/2016	Submitted Final Addendum 3 to the Groundwater Study Sampling and Analysis Plan	3/24/2016	Received approval by email for Draft Addendum 3 to the Groundwater Study Sampling and Analysis Plan	
3/23/2016	Submitted Text Replacement Final Sampling and Analysis Plan, Addendum 3 Sediment Study			
3/25/2016	Submitted Draft Addendum 2 to the Tissue Sampling and Analysis Plan for Additional Gulf Killifish Tissue Sampling	4/6/2016	Received approval by email for Draft Addendum 2 to the Tissue Sampling and Analysis Plan for Additional Gulf Killifish Tissue Sampling	
		4/5/2016	The Respondents' Project Coordinator was notified by USEPA's Remedial Project Manager that USEPA would be finalizing the FS for the Site via phone	•
4/15/2016	Submitted Monthly Report No 77			
		5/9/2016	Received an email from Gary Miller requesting assistance in locating a table from Appendix E of the Baseline Human Health Risk Assessment (BHHRA)	Responded with the table location in the BHHRA on May 11, 2016
		5/10/2016	Received email from Gary Miller requesting support in preparation of USEPA community meeting scheduled for May 25, 2016	Respondent's Project Coordinator followed up with Mr Miller on May 10, 2016 and the Respondents are working on the requested materials

Table 1

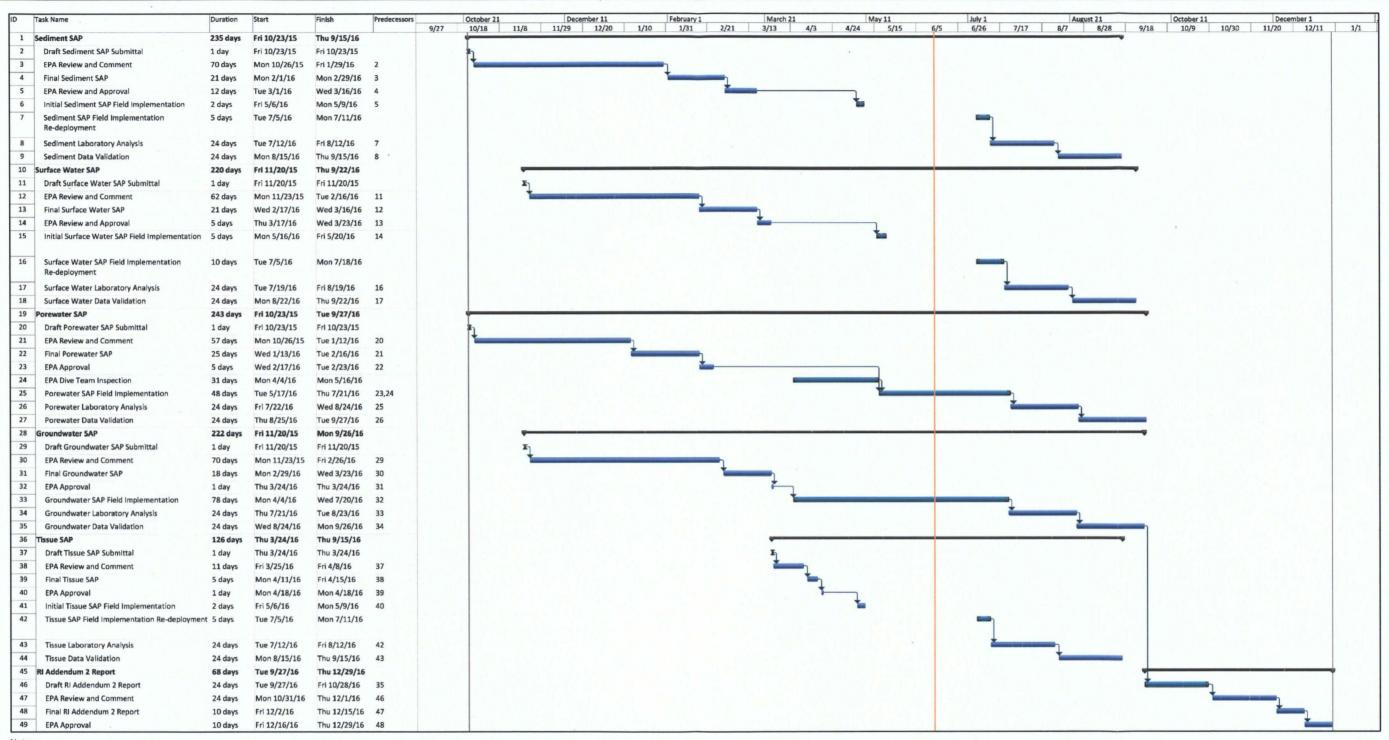
Summary of Agency Communication
San Jacinto River Waste Pits Superfund Site

	iver Waste Pits Superfund Site	T		1
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes
		5/11/2016	Received email from Gary Miller notifying the Respondents the National Remedy Review Board (NRRB) meeting for the San Jacinto Site is June 15, 2016 Mr Miller also indicated any white paper submittals for the NRRB consideration should be provided to USEPA by May 20, 2016	
5/12/2016	Provided USEPA an updated draft schedule for sediment, tissue, groundwater, porewater and surface water sampling and analysis plan implementation			
5/12/2016	Submitted a memorandum of Performance Reference Compound analysis procedures for porewater and groundwater sampling and analysis plans for USEPA review and approval	5/13/2016	Received email approval of Performance Reference Compound Procedures from Gary Miller	
5/16/2016	Submitted Monthly Report No 78			
5/23/2016	Submitted Sediment and Tissue Collection Memorandum, dated May 20, 2016	5/24/2016	Received email approval of the modifications to the sediment and tissue sampling locations and procedures as presented in the Sediment and Tissue Sample Collection Memo dated May 20, 2016	
5/27/206	Submitted National Remedy Review Board paper			Prepared and submitted supplemental comments regarding remedial alternatives for the Site to the National Remedy Review Board (NRRB) on May 27, 2016, and a revised submittal on June 1, 2016, based on USEPA's request to limit the number of pages in the submittal
6/6/2016	Submitted proposal for revised schedule for completion of field work for surface water, sediment and tissue sampling	6/6/2016	Received email approval of proposed field schedule from USEPA	A POS M
6/15/2016	Submitted Monthly Report No 79			

Table 1	Γable 1						
Summary of A	Summary of Agency Communication						
San Jacinto Ri	ver Waste Pits Superfund Site						
Respondents Submittal Date	Respondents Communication Summary	Response from USEPA Date	USEPA Communication Summary	Notes			
7/1/2016	Provided USEPA a detailed schedule for completing surface water, and remaining tissue and sediment sampling						
7/11/2016	Provided USEPA an updated project database on July 11, 2016						
7/14/2016	Provided USEPA a memorandum regarding final armored cap porewater sampler intervals based on USEPA Dive Team sampler installation						

Table 2. Summary of Data Files Provided

Project	SDG	Lab Data Packages	Lab Electronic Data Deliverables	Comments and/or Other Files
	K1605750	K1605750 pdf	K1605750 zip	
2016 Groundwater	E1600326	Final_E1600326amendedak pdf	E1600326 xls	E1600326_PrelimResultsSummary pdf
				Final_E1600326ak pdf
	l			
2016 Cap Monitoring	E1600282	Final_E1600282ak pdf	E1600282 xls	E1600282_PrelimResultsSummary pdf



- 14 Surface Water SAP Field Implementation: May 13. Call Gary Miller to evaluate expected flow conditions in the subsequent three weeks to discuss whether surface water sampling should commence the following Monday. If not, do this each Friday until conditions seem favorable, with deployment to take place as soon as possible.
- 22 EPA Dive Team Inspection: Final dive team inspection on northwestern area to be conducted by probing from boat at previously identified areas following porewater sampler installation the week of 5/16.
- 23 Porewater SAP Field Implementation: Field schedule driven by storm events and EPA dive team. 31 Groundwater SAP Field Implementation: Original well installation and sampler deployment occurred from April 03 - April 12, 2016. Final Well on Southeastern Berm of Northern Impoundment to be installed week of 5/9/16 after building access into the well location across right-of-way ditch. Added additional time for well samplers to stay deployed to account for final well installation date and equilibration following storm events.





Service Request No:E1600282

Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

Laboratory Results for: San Jacinto

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory April 08, 2016 For your reference, these analyses have been assigned our service request number **E1600282**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2279. You may also contact me via email at Arthi.Kodur@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Arthi Kodur

Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 PHONE +1 713 266 1599 | FAX +1 713 266 0130 ALS Group USA, Corp. dba ALS Environmental

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Certificate of Analysis

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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ALS ENVIRONMENTAL

Client: Integral Consulting, Incorporated Service Request No.: E1600282

Project: San Jacinto/150557-01.01 Date Received: 4/8/16

Sample Matrix: SPME Fibers (Non-aqueous liquid)

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six SPME Fibers were received for analysis at ALS Environmental – Houston HRMS on 4/8/16. Samples E1600282-001-005 were placed on hold 4/22/16 and eventually cancelled on 5/26/16.

The samples were received at 17.6°C in good condition and are consistent with the accompanying chain of custody form. The client was contacted and allowed the continuation of analysis. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Custody seals were not present on the cooler upon arrival at the laboratory.

Extraction

The samples in batch EQ1600219 were spiked with the 1613B full list labeled standard and shaken for 2 minutes with 60 ml of hexane. The solvent was decanted to a new jar and rinsed. Samples were then spiked with M23 Alternate standard which only has 1,2,3,7,8,9 HxCDF.

Data Validation Notes and Discussion

Precision and Accuracy

EQ1600219: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

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Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Integral Consulting, Incorporated

Project: San Jacinto/150557-01.01

Client:

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	<u>DATE</u>	<u>TIME</u>
E1600282-001	04052016SJPW1	4/5/2016	1600
E1600282-002	04052016SJPW2	4/5/2016	1600
E1600282-003	04052016SJPW3	4/5/2016	1600
E1600282-004	04052016SJPW4	4/5/2016	1600
E1600282-005	04052016SJPW5	4/5/2016	1600
E1600282-006	04052016SJPW10	4/5/2016	1700

Service Request Summary

Folder #: E1600282

Integral Consulting, Incorporated Client Name:

Project Name: San Jacinto Project Number: 150557-01.01

Report To: Craig Hutchings

> Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

USA

Phone Number: 360-705-3534

Cell Number: Fax Number:

E-mail: chutchings@integral-corp.com Project Chemist: Arthi Kodur Originating Lab:

HOUSTON

Logged By: ALOPEZ

Date Received: 04/08/16 Internal Due Date: 4/29/2016

QAP: LAB QAP

Qualifier Set: **HRMS** Qualifier Set

> Formset: Lab Standard

Merged?: Ν

Report to MDL?: Y

P.O. Number:

HOUST ON

EDD: No EDD Specified

Dioxins Furans/1613B Lab Samp No. **Client Samp No** Matrix Collected E1600282-001 04052016SJPW1 NonAq Liquid 04/05/16 1600 IV E1600282-002 04052016SJPW2 NonAq Liquid 04/05/16 1600 I۷ E1600282-003 04052016SJPW3 NonAq Liquid 04/05/16 1600 IV E1600282-004 04052016SJPW4 NonAq Liquid 04/05/16 1600 ΙV E1600282-005 04052016SJPW5 NonAg Liquid 04/05/16 1600 ΙV E1600282-006 04052016SJPW10 NonAq Liquid 04/05/16 1700 I۷

Folder Comments:

Samples E1600282-001-005 on hold till further notice (ak 4/22/16)

Printed 7/7/2016 5:26:52 PM

E1600282 6 of 174 -N/A N/A

Location: EHRMS-WIC 3B, E-Disposed

Pressure Gas:

Service Request Summary

Folder #: E1600282 Project Chemist: Arthi Kodur 6 -N/A N/A

Client Name: Integral Consulting, Incorporated Originating Lab: HOUSTON Location: EHRMS-WIC 3B, E-Disposed

Project Name: San Jacinto Logged By: ALOPEZ Pressure Gas:

Project Number: 150557-01.01 Date Received: 04/08/16

Report To: Craig Hutchings Internal Due Date: 4/29/2016

Integral Consulting, Inc.

QAP: LAB QAP

Qualifier Set: HRMS Qualifier Set

1205 West Bay Drive NW
Formset: Lab Standard

Olympia, WA 98502-4670

USA Merged?: N

Phone Number: 360-705-3534 Report to MDL?: Y
Cell Number: P.O. Number:

Fax Number: EDD: No EDD Specified

E-mail: chutchings@integral-corp.com

Test Comments:

Group Test/Method Samples Comments

Semivoa GCMS Dioxins Furans/1613B 1 native TCDD/TCDF/23478 PeCDF (ak 4/20/16)

Semivoa GCMS Dioxins Furans/1613B 5 E1600282-001 through 005= labeled TCDD/TCDF/23478 PeCDF

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Superset Summary

Service Request: E1600282 SuperSet Reference: 16-0000383418 rev 00

Analytical Method: 1613B

Calibrations: 06/25/16

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P603994	P603991	P603993	E1600282-006
P603993	P603991	P603993	EQ1600219-01
P604002	P603991	P603993	EQ1600219-02
P604003	P603991	P603993	EQ1600219-03

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Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. The concentration of this analyte should be considered as an estimate.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
- i The MDL/MRL have been elevated due to a matrix interference.

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ALS Laboratory Group

Acronyms

Cal Calibration
Conc CONCentration

Dioxin(s) Polychlorinated dibenzo-p-dioxin(s)

EDL Estimated Detection Limit

EMPC Estimated Maximum Possible Concentration

Flags Data qualifiers

Furan(s) Polychlorinated dibenzofuran(s)

g Grams

ICAL Initial CALibration

ID IDentifier

Ions Masses monitored for the analyte during data acquisition

L Liter (s)

LCS Laboratory Control Sample

DLCS Duplicate Laboratory Control Sample

MB Method Blank

MCL Method Calibration Limit
MDL Method Detection Limit

mL Milliliters

MS Matrix Spiked sample

DMS Duplicate Matrix Spiked sample

NO Number of peaks meeting all identification criteria

PCDD(s) Polychlorinated dibenzo-p-dioxin(s) PCDF(s) Polychlorinated dibenzofuran(s)

ppb Parts per billion
ppm Parts per million
ppq Parts per quadrillion
ppt Parts per trillion
QA Quality Assurance
QC Quality Control

Ratio Ratio of areas from monitored ions for an analyte

% Rec. Percent recovery

RPD Relative Percent Difference RRF Relative Response Factor

RT Retention Time

SDG Sample Delivery Group S/N Signal-to-noise ratio

TEF Toxicity Equivalence Factor
TEQ Toxicity Equivalence Quotient

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State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2017
Arizona Department of Health Services	AZ0793	5/27/2017
Arkansas Department of Environmental Quality	14-038-0	6/16/2017
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2017
Hawaii Department of Health	TX02694	4/30/2017
Illinois Environmental Protection Agency	200057	10/6/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2016
Maine Center for Disease Control and Prevention	2014019	6/5/2018
Maryland Department of the Environment	343	6/30/2017
Minnesota Department of Health	840911	12/31/2016
Nevada Department of Concervation and Natural Resources	TX014112013-2	7/31/2016
New Jersey Department of Environmental Protection	NLC140001	6/30/2017
New Mexico Environment Department	TX02694	4/17/2017
New York Department of Health	11707	4/1/2017
Oklahoma Department of Environmental Quality	2014 124	8/31/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2017
Tennessee Department of Environment and Concervation	04016	6/30/2017
Texas Commision on Environmental Quality	TX104704216-14-5	6/30/2017
United States Department of Agriculture	P330-14-00067	2/21/2017
Utah Department of Health Environmental Laboratory Certification	TX02694	7/31/2016
Washington Department of Health	c819	11/14/2016
West Virginia Department of Environmental Protection	347	8/31/2016

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ALS ENVIRONMENTAL – Houston Data Processing/Form Production and Peer Review Signatures

SR# Unique ID	E1600282		(DB-5MSUI)	SPB-Octyl
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	V			
Sec	ond Level - Data Rev	iew – to be filled by	person doing pee	er review
Date:	Analyst:	Samples:		
07/05/16	LKL	006		

PEER REVIEW PAGE2015

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Chain of Custody

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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Chain of Custody Rec		ratory Analysis	Request																	
Laboratory Number	er:				Test Parameters															
Project Name: Project Number: Project Manager: Phone Number: Shipment Method:	San Jac	- (001 (Masa	. Kovernst kr QEA	Containers	378 TCOD	378 TCDOFF	Orn recut	TCPD	TCDF	RCOF										ANCHOR OEA
Line Field Samp 1 040520/6 St		Collection Date/Time チ/ケ/ショ6 ル		No. of	(1)	- 13C-3	130-0	- 2378	- 2378	36386									-	Comments/Preservation PDMS Giber (50.96mm)
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11 12			_	-	+	+	+	Н	\dashv	_	4	_	\sqcup	_	\perp					
13				+	₩	+	+	H	4	+	_	_	\vdash	_	\perp			\sqcup	\perp	
14		1		+-	+	+	+	Н		+	+	+	\vdash	+	+			\vdash		•
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Relinquished By: Signature/Printed Name		Comp	pany:						eived			`A	_				-11			Company: AS HZIMS 4/8/16 9500
Oignature/Filined Name				Date	e/Time		_	Sign	ature	/Prinf	ed Na	ame		-						Date/Time

E1600282
Integral Consulting, Inc.
San Jacinto

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Cooler Receipt Form Project Chemist AK

Client/Project Anchor QEA			The	rmometer ID <	SMO 4							
Date/Time Received: 4/8/16 9:0	Initi	als: AL Date	e/Time Logg	ed in: 4/8/10	Initi	ials AZ						
1. Method of delivery: OUS Mail	Fed Ex	○ UPS	ODHL C	Courier C	Client							
2. Samples received in: Cooler OB	ox O Env	elope Other		3								
3. Were custody seals on coolers?	Were they intact? O Yes O No ON/A and where?											
Were they signed and dated? Yes O No ON/A												
4. Packing Material: O Inserts Baggies Bubble Wrap Gel Packs O Wet Ice O Sleeves O Other												
5. Foreign or Regulated Soil?												
Cooler Tracking Number	COCID	Date Opened	Time Opened	Opened By	Temp.	Temp Blank?						
7760 6344 3470		4/8/16	9:15	AL	15.6/17.	6 -						
6. Were custody papers properly filled out (ink, si	gned, date	ed, etc)?		Yes	○ No							
7. Did all bottles arrive in good condition (not bro	oken, no si	gns of leakage)?		Yes	○ No							
8. Were all sample labels complete (i.e., sample II), analysis,	preservation, etc)	?		○ No							
9. Were appropriate bottles/containers and volume	mes receive	ed for the request	ed tests?		○No							
10. Did sample labels and tags agree with custod	ly docume	nts?		O Yes	○No							
Notes Discrepancies & Resolutions												
	Notes, Discrepancies, & Resolutions: Samples received out of femp AL 4/3/16											

Service request Label:

E1600282



10450 Stancliff Rd., Suite 210 Houston, TX 77099 T: +1 713 266 1599 F: +1 713 266 1599 www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental - Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

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Preparation Information Benchsheets

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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Preparation Information Benchsheet

Prep Run#: 262304 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/26/16 12:00 PM

#	Lab Code	Client ID	B#	Method /Test	рН	CI	Matrix	Amt. Ext.	Sample Description
1	E1600282-006	04052016SJPW10	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
2	E1600326-001	03162016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
3	E1600326-002	04072016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
4	E1600326-003	04072016SJGW2	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
5	EQ1600219-01	MB		1613B/Dioxins Furans			NonAq Liquid	2.210g	
6	EQ1600219-02	LCS		1613B/Dioxins Furans			NonAq Liquid	2.086g	
7	EQ1600219-03	DLCS		1613B/Dioxins Furans			NonAq Liquid	2.032g	

Spiking Solutions

iking solutions										
Name: 23/TO-9A Altern	nate Working Solution	In	nventory ID 864	67	Logbook Ref:	86467 12/8/2015	CID 100ng/ml		Expires On: 06/	05/2016
E1600282-006 20.00μL EQ1600219-03 20.00μL	E1600326-001	20.00μL	E1600326-002	20.00μL	E1600326-003	20.00μL	EQ1600219-01	20.00μL	EQ1600219-02	20.00μL
Name: 1613B Matrix W	orking Standard	In	nventory ID 172	2305	Logbook Ref:	JP 172305 5/10/16	5 2-20 ng/mL		Expires On: 11/	06/2016
E1600282-006 100.00μL EQ1600219-03 100.00μL	E1600326-001	100.00μL	E1600326-002	100.00μL	E1600326-003	100.00μL	EQ1600219-01	100.00μL	EQ1600219-02	100.00μL
Name: 1613B Labeled V	Vorking Standard	In	nventory ID 172	2717	Logbook Ref:	172717 AL 05/25/	/16 2-4ng/mL		Expires On: 11/	16/2016
E1600282-006 1,000.00μI EQ1600219-03 1,000.00μI		1,000.00μL	E1600326-002	1,000.00μL	E1600326-003	1,000.00μL	EQ1600219-01	1,000.00μL	EQ1600219-02	1,000.00μL
Preparation Materials										
Carbon, High Purity	CID 05/23/2016 (17262	2)	Ethyl Acetate 99.99 EtOAc	% Minimum	CID 02/25/2016 (8832	24)	Glass Wool		CID 04/01/201 (171329)	

Carbon, High Purity	CID 05/23/2016 (1/2622)	Etnyi Acetate 99.9% Minimum	CID 02/25/2016 (88324)	Glass Wool	CID 04/01/201 (1/1329)
		EtOAc			
Hexanes 95%	CID 05/16/2016 (172432)	Dichloromethane (Methylene	JP 5/11/16 (172330)	Sodium Hydroxide Reagent	05/12/2016 CID (172369)
		Chloride) 99.9% MeCl2		Grade NaOH	
Sodium Sulfate Anhydrous	AL 04/25/16 (171913)	Asian Taste Pure Canola Oil	TW 04/29/16 (172043)	Silica Gel	CID 05/13/2016 (172433)
Reagent Grade Na2SO4					

Preparation Steps

AL 03/25/16 (89012)

sulfuric acid

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	5/26/16 12:00	Started:	6/1/16 14:00	Started:	6/3/16 08:00	Started:	6/3/16 12:00
Finished:	5/26/16 14:00	Finished:	6/1/16 15:00	Finished:	6/3/16 09:30	Finished:	6/3/16 12:30
By:	ALOPEZ	By:	ALOPEZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Preparation Information Benchsheet

 Prep Run#:
 262304
 Prep WorkFlow:
 OrgExtDiox(365)
 Status:
 Prepped

Team:Semivoa GCMS/ALOPEZPrep Method:MethodPrep Date/Time:5/26/16 12:00 PM

 Comments:
 Date:

 Reviewed By:
 Date:

 Chain of Custody
 Extracts Examined

 Relinquished By:
 Date:
 Extracts Examined

 Received By:
 Date:
 Yes
 No

Printed 6/17/16 10:43 E1600282



Analytical Results

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600282 **Date Collected:** 04/05/16 17:00 **Project:** San Jacinto/150557-01.01 **Date Received:** 04/08/16 09:00 **Sample Matrix:** NonAq Liquid

04052016SJPW10 **Sample Name:** Units: ng/Kg

Lab Code: E1600282-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 20:37

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

Blank File Name: P603993

GC Column: DB-5MSUI

Data File Name: P603994 **ICAL Date:** 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ND	U	1.83	5.00			1
(TCDD)							
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	2.60	5.00			1
2,3,4,7,8-Pentachlorodibenzofuran	ND	U	0.820	25.0			1
(PeCDF)							

Printed 7/7/2016 5:26:55 PM Superset Reference:16-0000383418 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600282 **Date Collected:** 04/05/16 17:00 **Project:** San Jacinto/150557-01.01 **Date Received:** 04/08/16 09:00 **Sample Matrix:** NonAq Liquid

04052016SJPW10 **Sample Name:** Units: ng/Kg

Lab Code: E1600282-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 20:37

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603994 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	\mathbf{EDL}	MRL	Ratio	RRT	Factor
Tetrachlorodibenzo-p-dioxins (TCDD),	ND	U	1.83	5.00			1
Total							
Tetrachlorodibenzofurans (TCDF), Total	ND	U	2.60	5.00			1
Pentachlorodibenzofurans (PeCDF), Total	ND	U	0.825	25.0			1

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600282Project:San Jacinto/150557-01.01Date Collected:04/05/16 17:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04052016SJPW10 Units:

Lab Code: E1600282-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 20:37

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

Data File Name: P603994

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.	0/ D	0	Control	Ion	DDT
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	561.939	28		25-164	0.77	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	504.406	25		24-169	0.81	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	688.402	34		24-185	1.60	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	701.545	35		21-178	1.61	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1596.084	40		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.548			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units: ng/Kg

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.210gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P603993

 ICAL Date:
 06/25/16

 Blank File Name:
 P603993

 Cal Ver. File Name:
 P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
2,3,7,8-Tetrachlorodibenzo-p-dioxin	ND	U	0.599	2.26			1
(TCDD)							
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	0.795	2.26			1
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1.00 JI	Κ.	0.388	11.3	1.22	1.001	1

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600282

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** Date Received: NA NonAq Liquid

Sample Name: Units: ng/Kg Method Blank

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.210g **Instrument Name:** E-HRMS-08

> P603993 Blank File Name: P603993

GC Column: DB-5MSUI

Data File Name: ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
Tetrachlorodibenzo-p-dioxins (TCDD),	ND	U	0.599	2.26			1
Total							
Tetrachlorodibenzofurans (TCDF), Total	ND	U	0.795	2.26			1
Pentachlorodibenzofurans (PeCDF), Total	1.44 J		0.378	11.3	1.40		1

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units:

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.210gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name:P603993Blank File Name:P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	880.428	44		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	825.710	41		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	826.023	41		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	787.091	39		21-178	1.59	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1489.602	37		29-147	0.51	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.000			35-197	NA	1.022

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Accuracy & Precision

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QA/QC Report

Client:Integral Consulting, IncorporatedService Request:E1600282Project:San Jacinto/150557-01.01Date Analyzed:06/26/16Sample Matrix:NonAq LiquidDate Extracted:05/26/16

Duplicate Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Units:** ng/Kg

Prep Method:

Method

Analysis Lot: 504016

As Received

Basis:

Lab Control Sample
EQ1600219-02

Duplicate Lab Control Sample
EQ1600219-03

		Spike			Spike		% Rec		RPD
Analyte Name	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	484	479	101	478	492	97	68-160	1	50
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	86.1	95.9	90	94.1	98.4	96	75-158	9	50
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	82.2	95.9	86	83.1	98.4	84	67-158	1	50

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.086gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604002
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Cal ver. File Name: Poo

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
2,3,7,8-Tetrachlorodibenzo-p-dioxin	82.2		0.446	2.40	0.77	1.001	1
(TCDD)							
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	86.1		0.574	2.40	0.77	1.001	1
2,3,4,7,8-Pentachlorodibenzofuran	484		0.862	12.0	1.55	1.001	1
(PeCDF)							

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.086gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

P604002 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Data File Name:

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
Tetrachlorodibenzo-p-dioxins (TCDD),	82.2		0.446	2.40	0.77		1
Total							
Tetrachlorodibenzofurans (TCDF), Total	86.1		0.574	2.40	0.77		1
Pentachlorodibenzofurans (PeCDF), Total	931		0.831	12.0	1.72		1

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600282

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample **Units:**

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.086g**Instrument Name:** E-HRMS-08

> P604002 Blank File Name: P603993

GC Column: DB-5MSUI

Data File Name: Cal Ver. File Name: P603991 **ICAL Date:** 06/25/16

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
	Conc.(pg)	round (pg)	70 Rec	Ų	Lillits	Kano	KKI
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	939.378	47		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	896.386	45		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	905.972	45		24-185	1.60	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	856.361	43		21-178	1.57	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1759.063	44		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.286			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project:San Jacinto/150557-01.01Date Collected:NASample Matrix:NonAq LiquidDate Received:NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.032gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI
Blank File Name: P603993

 Data File Name:
 P604003

 ICAL Date:
 06/25/16

 Blank File Name:
 P603993

 Cal Ver. File Name:
 P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
2,3,7,8-Tetrachlorodibenzo-p-dioxin	83.1		6.46	6.46	0.73	1.001	1
(TCDD)							
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	94.1		6.40	6.40	0.75	1.001	1
2,3,4,7,8-Pentachlorodibenzofuran	478		4.39	12.3	1.62	1.001	1
(PeCDF)							

Printed 7/7/2016 5:26:56 PM Superset Reference:16-0000383418 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.032gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604003

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

					Ion		Dilution
Analyte Name	Result	Q	EDL	MRL	Ratio	RRT	Factor
Tetrachlorodibenzo-p-dioxins (TCDD),	83.1		6.46	6.46	0.73		1
Total							
Tetrachlorodibenzofurans (TCDF), Total	94.1		6.40	6.40	0.75		1
Pentachlorodibenzofurans (PeCDF), Total	919		4.33	12.3	1.53		1

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600282

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units:

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.032gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604003
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	761.306	38		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	729.732	36		24-169	0.83	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	847.157	42		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	815.813	41		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1517.396	38		29-147	0.51	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0			35-197	NA	

Printed 7/7/2016 5:26:56 PM Superset Reference:16-0000383418 rev 00

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Chromatograms and Selected Ion Monitoring

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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04052016SJPW10

Run #9 Filename P603994 Samp: 1 Inj: 1 Acquired: 25-JUN-16 20:37:12 Processed: 1-JUL-16 12:18:18 Sample ID: E1600282-006

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	2.041e+04	2.518e+04	0.81	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	4.121e+04	2.575e+04	1.60	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.179e+04	2.599e+04	1.61	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.218e+04	6.195e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
									•
27	IS	13C-2,3,7,8-TCDD	28:58	1.600e+04	2.075e+04	0.77	yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:22	3.131e+04	3.913e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.747e+04	2.993e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	3.645e+01				no	0.945

EPL	(†.520 e+03 +	t. 20.e+33) x	2000	pg	g 1	×2.5	Microsoft Street and the earth WAR Wall of the Control	1.83 mg/kg
	(1.600e+04 + (3.102+06+	2.075e+04)) ^x	1.0	g	x	100/	x 1.048	un 07/05/16

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 04052016SJPW10

Run #9 Filename P603994 Samp: 1 Inj: 1 Acquired: 25-JUN-16 20:37:12

Processed: 1-JUL-16 12:18:18 LAB. ID: E1600282-006

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	8.56e+02	*	*	3.30e+03	*
3	2,3,4,7,8-PeCDF	*	7.88e+02	*	*	1.21e+03	*
11	2,3,7,8-TCDD	*	1.52e+03	*	*	1.20e+03	*
18	13C-2,3,7,8-TCDF	3.72e+06	4.70e+03	7.9e+02	4.60e+06	3.76e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	7.39e+06	5.98e+03	1.2e+03	4.68e+06	3.79e+03	1.2e+03
20	13C-2,3,4,7,8-PeCDF	7.99e+06	5.98e+03	1.3e+03	5.03e+06	3.79e+03	1.3e+03
24	13C-1,2,3,7,8,9-HxCDF	6.44e+06	1.13e+03	5.7e+03	1.24e+07	1.37e+03	9.1e+03
26	13C-1,2,3,4-TCDF	*	4.70e+03	*	*	3.76e+03	*
27	13C-2,3,7,8-TCDD	3.10e+06	6.44e+03	4.8e+02	3.99e+06	3.93e+03	1.0e+03
33	13C-1,2,3,4-TCDD	5.84e+06	6.44e+03	9.1e+02	7.38e+06	3.93e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	7.58e+06	2.30e+03	3.3e+03	6.05e+06	1.58e+03	3.8e+03
35	37Cl-2,3,7,8-TCDD	9.17e+03	1.81e+03	5.1e+00		o*	

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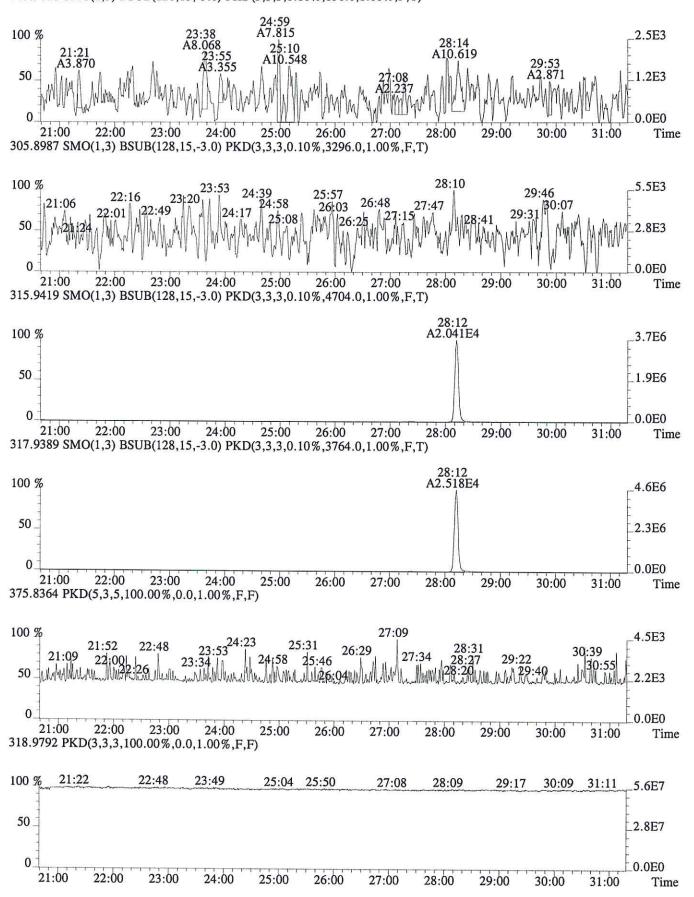
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

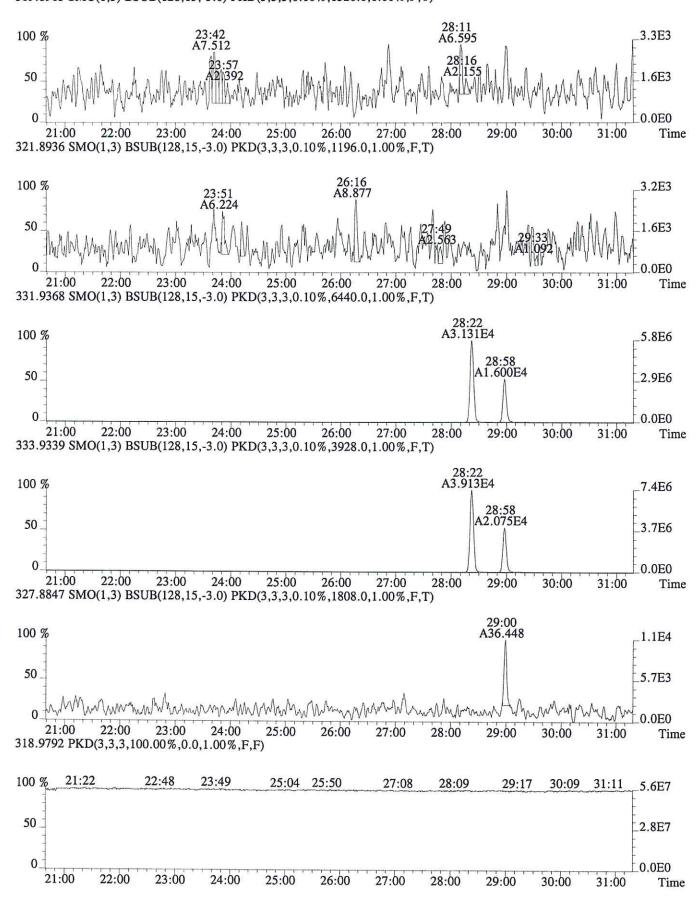
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File:P603994 #1-756 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)

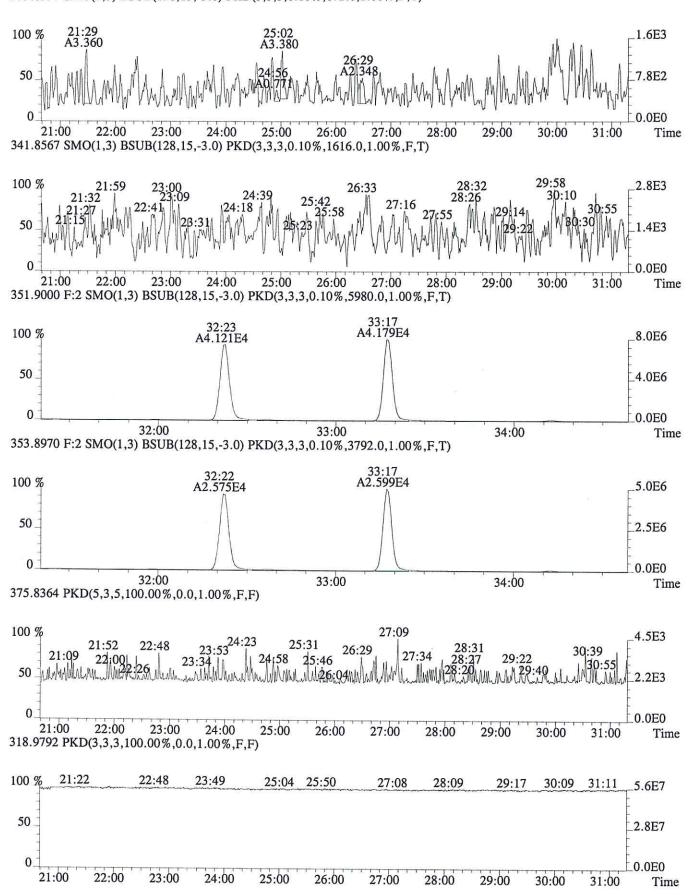


File:P603994 #1-756 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1520.0,1.00%,F,T)

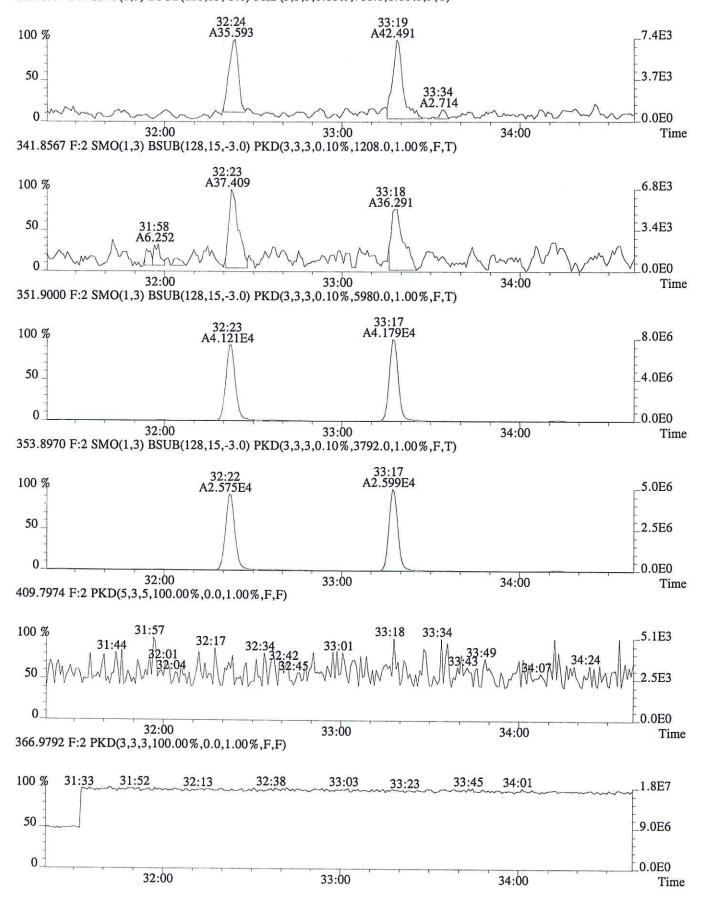


E1600282 39 of 174

File:P603994 #1-756 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,672.0,1.00%,F,T)

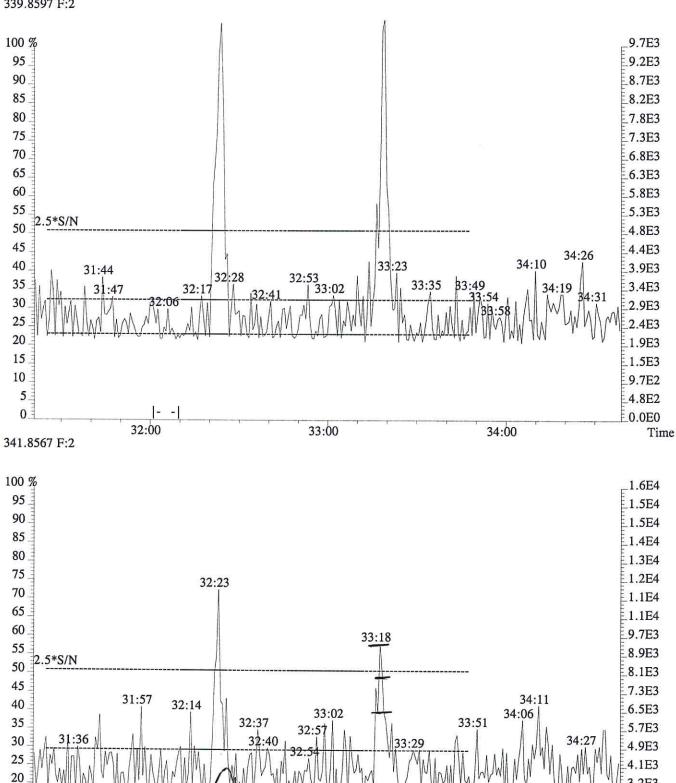


File:P603994 #1-298 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



E1600282 41 of 174

File:P603994 #1-298 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 339.8597 F:2



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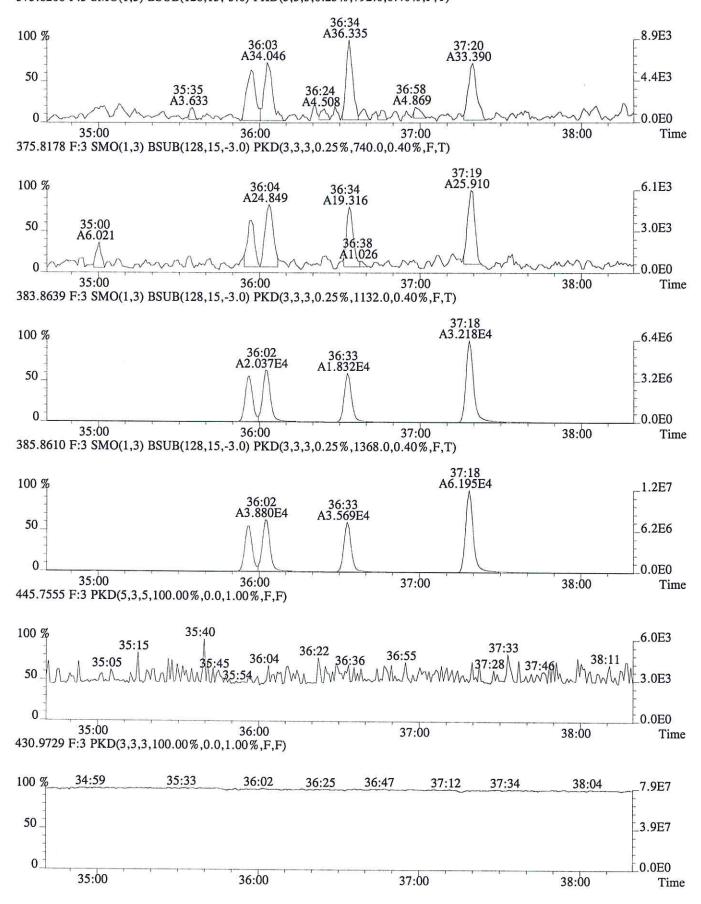
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0.0E0

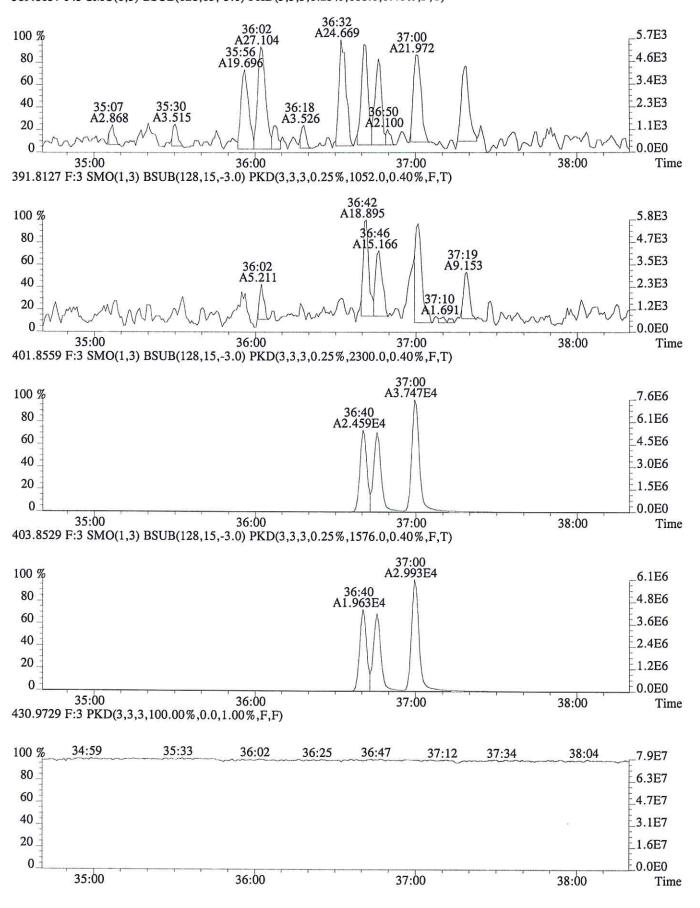
Time

34:00

File:P603994 #1-329 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,T)



File:P603994 #1-329 Acq:25-JUN-2016 20:37:12 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600282-006 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09 Processed: 1-JUL-16 11:44:18 Sample ID: EQ1600219-01

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	4.809e+01	3.936e+01	1.22	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.349e+04	4.194e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	4.984e+04	3.137e+04	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.723e+04	2.963e+04	1.59	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	2.878e+04	5.649e+04	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
						12		13	70
27	IS	13C-2,3,7,8-TCDD	28:58	2.559e+04	3.261e+04	0.78	yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:22	3.155e+04	3.965e+04	0.80	yes	no	i -
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.547e+04	2.995e+04	1.18	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	28:59	6.727e+01		5		no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18 LAB. ID: EQ1600219-01

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	1.18e+03	*	*	3.42e+03	*
3	2,3,4,7,8-PeCDF	9.96e+03	6.92e+02	1.4e+01	8.22e+03	1.70e+03	4.8e+00
11	2,3,7,8-TCDD	*	1.70e+03	*	*	1.42e+03	*
18	13C-2,3,7,8-TCDF	6.07e+06	6.55e+03	9.3e+02	7.58e+06	3.48e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.10e+06	7.38e+03	1.2e+03	5.72e+06	5.96e+03	9.6e+02
20	13C-2,3,4,7,8-PeCDF	9.20e+06	7.38e+03	1.2e+03	5.79e+06	5.96e+03	9.7e+02
24	13C-1,2,3,7,8,9-HxCDF	5.77e+06	1.08e+03	5.3e+03	1.10e+07	2.23e+03	4.9e + 03
26	13C-1,2,3,4-TCDF	*	6.55e+03	*	*	3.48e+03	*
27	13C-2,3,7,8-TCDD	4.95e+06	9.06e+03	5.5e+02	6.29e+06	3.78e+03	1.7e+03
33	13C-1,2,3,4-TCDD	6.03e+06	9.06e+03	6.7e+02	7.53e+06	3.78e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	7.29e+06	2.17e+03	3.4e+03	5.91e+06	1.44e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	1.20e+04	2.08e+03	5.8e+00		,	

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ALS ENVIRONMENTAL Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 39 Totals Name: Total Penta-Furans2

Run: 8 File: P603993

Sample:1 Injection:1 Function:2

Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18

Mass: 339.8600 341.8570 Tot Response: 1.28e+02 RRF: 0.9596

RT

Resp Resp Ratio Meet Tot Resp

Name

Mod1? Mod2

32:23 7.46e+01 5.34e+01 1.40 yes 1.28e+02 1,2,3,7,8-PeCDF

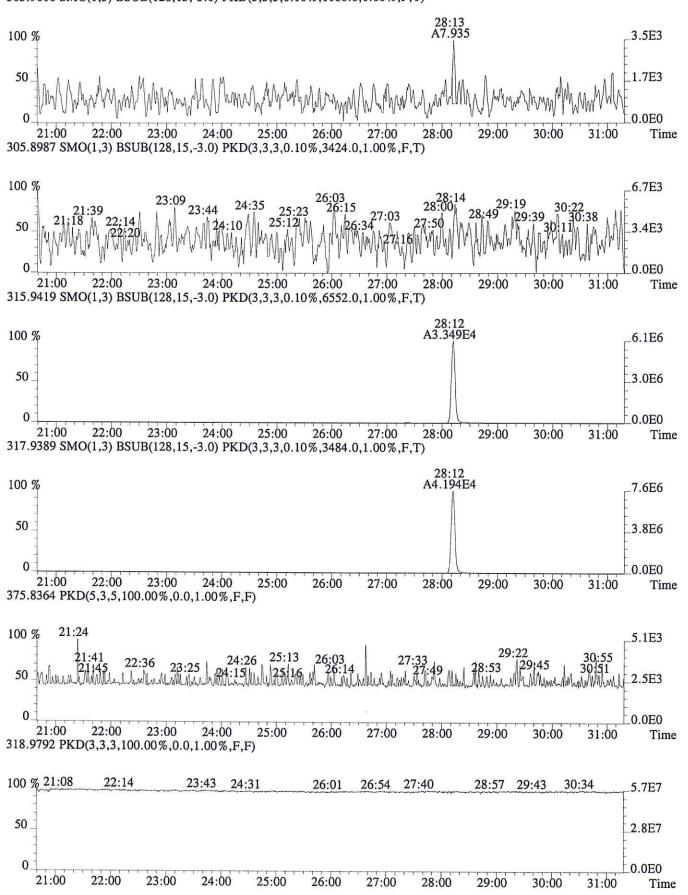
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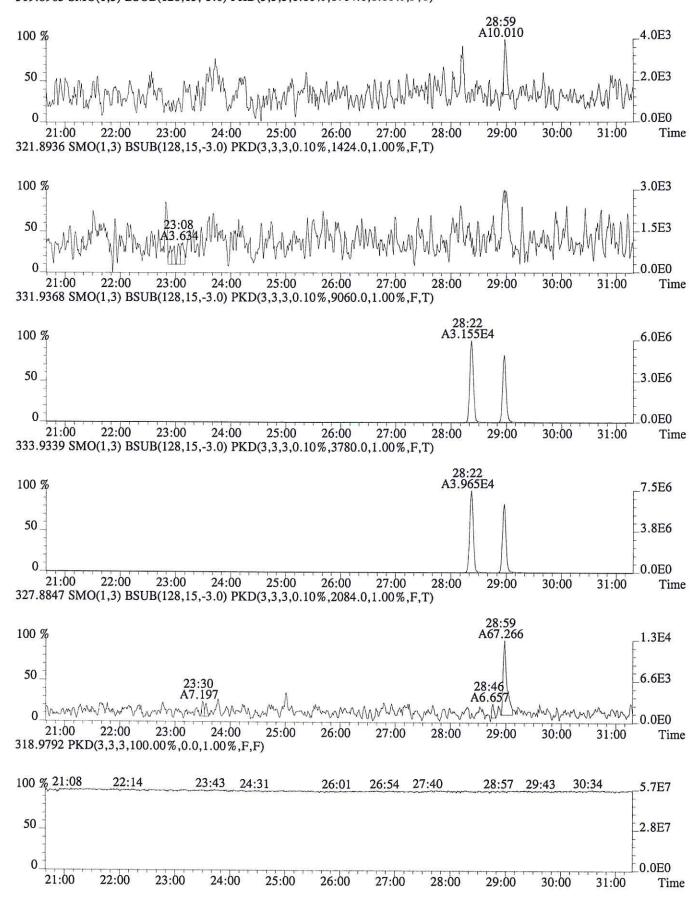
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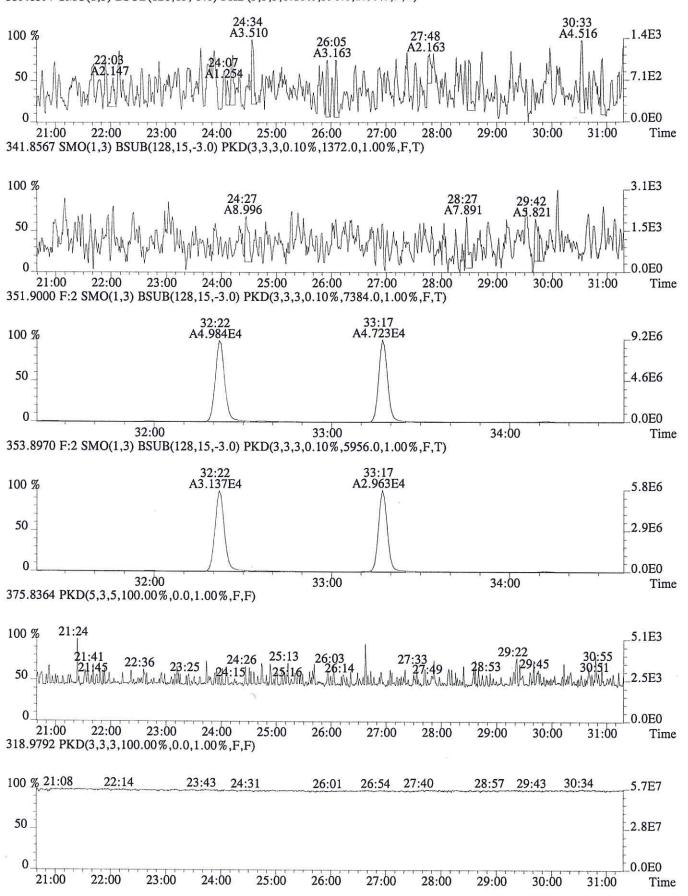
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



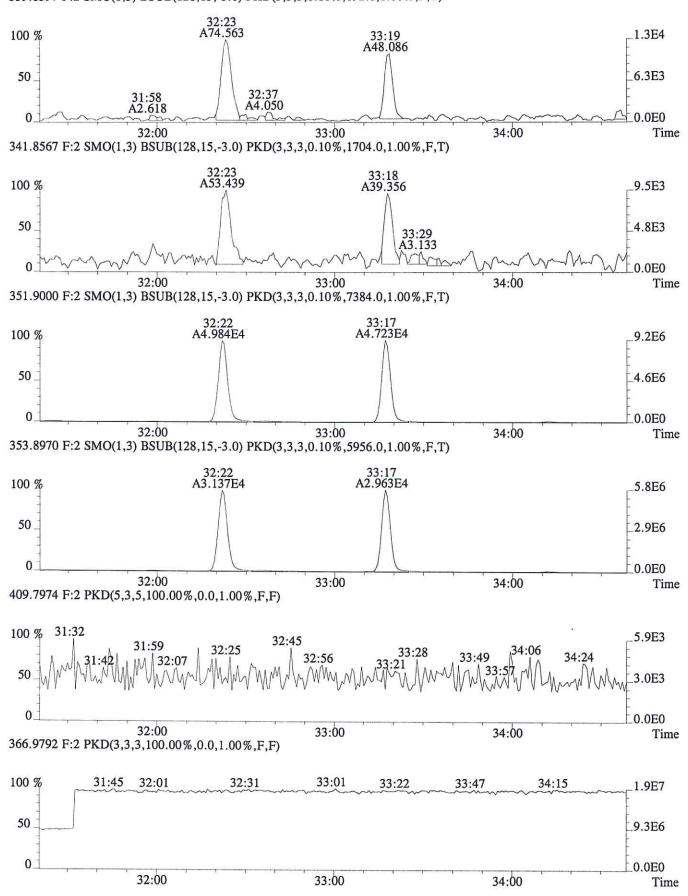
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1704.0,1.00%,F,T)



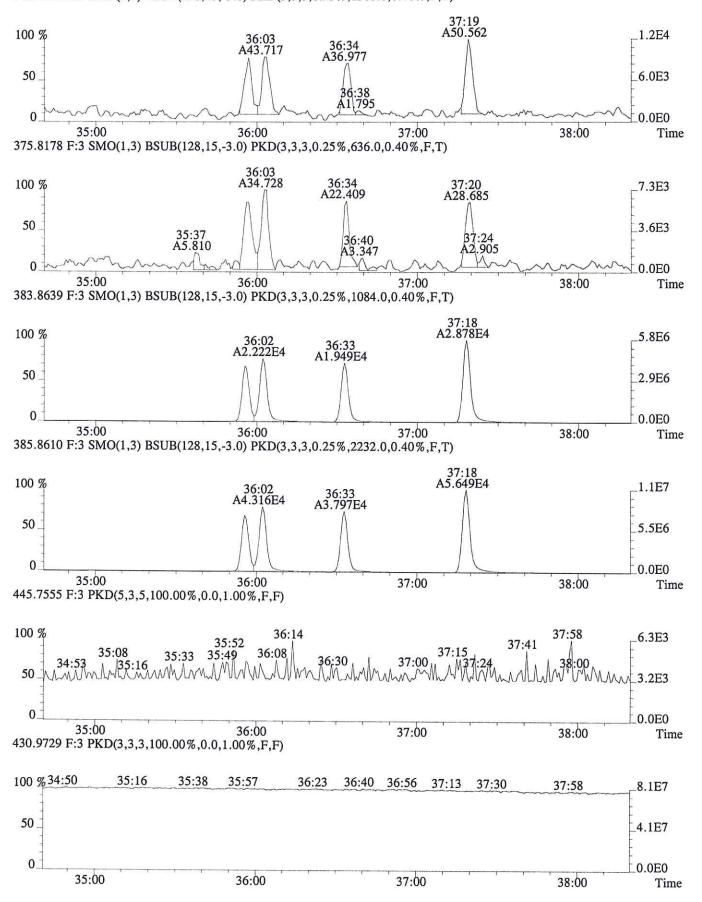
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



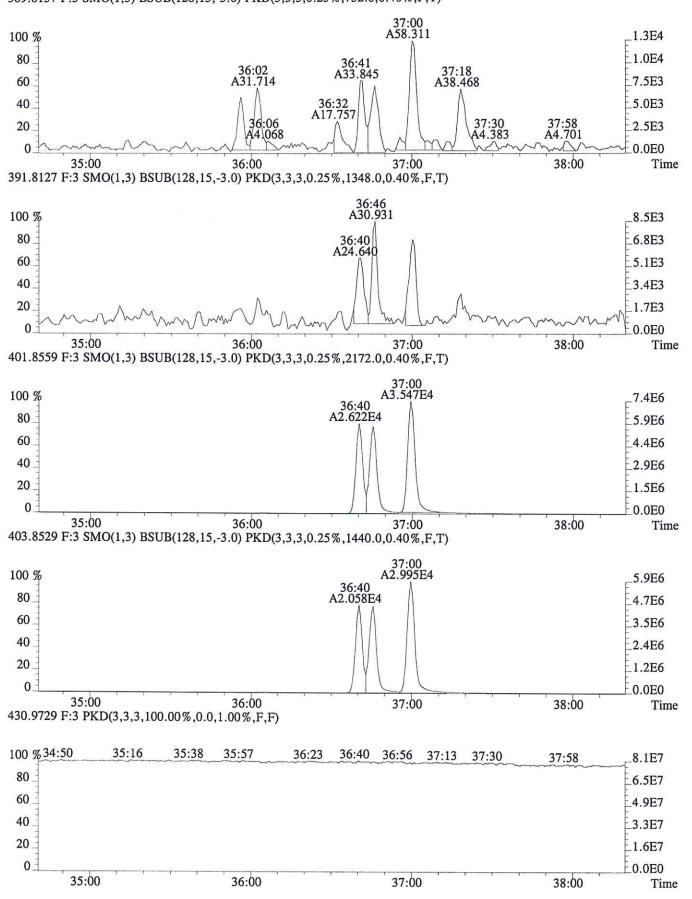
File:P603993 #1-298 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #7 Filename P604002 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:09:23

Processed: 1-JUL-16 15:35:42 Sample ID: EQ1600219-02

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:14	2.801e+03	3.660e+03	0.77 yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.190e+04	1.413e+04	1.55 yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	2.231e+03	2.891e+03	0.77 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.350e+04	4.172e+04	0.80 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	5.040e+04	3.141e+04	1.60 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.698e+04	2.983e+04	1.57 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.332e+04	6.463e+04	0.52 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	* no	no	1.324
							0	
	IS	13C-2,3,7,8-TCDD	28:58	2.534e+04	3.171e+04	0.80 yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD		2.878e+04	3.661e+04	0.79 yes	no	
	RS/RT	13C-1,2,3,7,8,9-HxCDD		3.503e+04	2.861e+04	1.22 yes	no	j.=:
35	C/Up	37C1-2,3,7,8-TCDD	29:00	7.948e+01			no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.

Run #7 Filename P604002 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:09:23 Processed: 1-JUL-16 15:35:42 LAB. ID: EQ1600219-02 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF| 5.03e+05| 7.96e+02| 6.3e+02| 6.62e+05| 2.36e+03| 2.8e + 023 2,3,4,7,8-PeCDF | 4.38e+06 | 2.79e+03 | 2.28e+03 1.6e+03 2.85e+06 1.2e + 0311 2,3,7,8-TCDD 4.39e+05 1.02e+03 4.3e+02 5.62e+05 1.12e+03 5.0e + 0218 13C-2,3,7,8-TCDF 6.10e+06 7.65e+06 3.89e+03 1.6e+03 2.73e+03 2.8e + 0319 9.44e+06 13C-1,2,3,7,8-PeCDF 5.98e+03 1.6e+03 5.84e+06 6.68e+02 8.7e + 0320 13C-2,3,4,7,8-PeCDF 9.26e+06 5.98e+03 1.5e+03 5.88e+06 6.68e+02 8.8e+03 24 13C-1,2,3,7,8,9-HxCDF 6.74e+06 7.64e+02 | 8.8e+03 | 1.29e+07 1.90e+03 | 6.8e+03 26 13C-1,2,3,4-TCDF 3.89e+03 * 2.73e+03 * 27 13C-2,3,7,8-TCDD | 4.84e+06 | 7.32e+03 | 6.6e+02 | 6.09e+06 | 2.92e+03 | 2.1e+03 33 13C-1,2,3,4-TCDD 5.37e+06 | 7.32e+03 | 7.3e+02 | 6.86e+06 | 2.92e+03 | 2.4e+03 34 13C-1,2,3,7,8,9-HxCDD 7.54e+06 1.57e+03 4.8e+03 5.95e+06 1.14e+03 5.2e+03 35 37C1-2,3,7,8-TCDD | 1.40e+04 | 1.43e+03 | 9.8e+00

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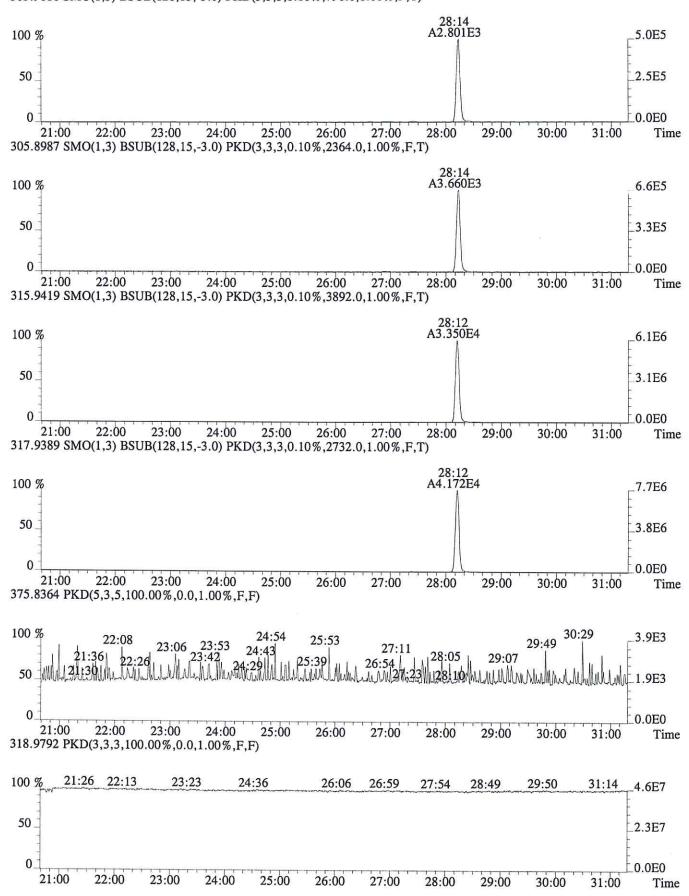
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

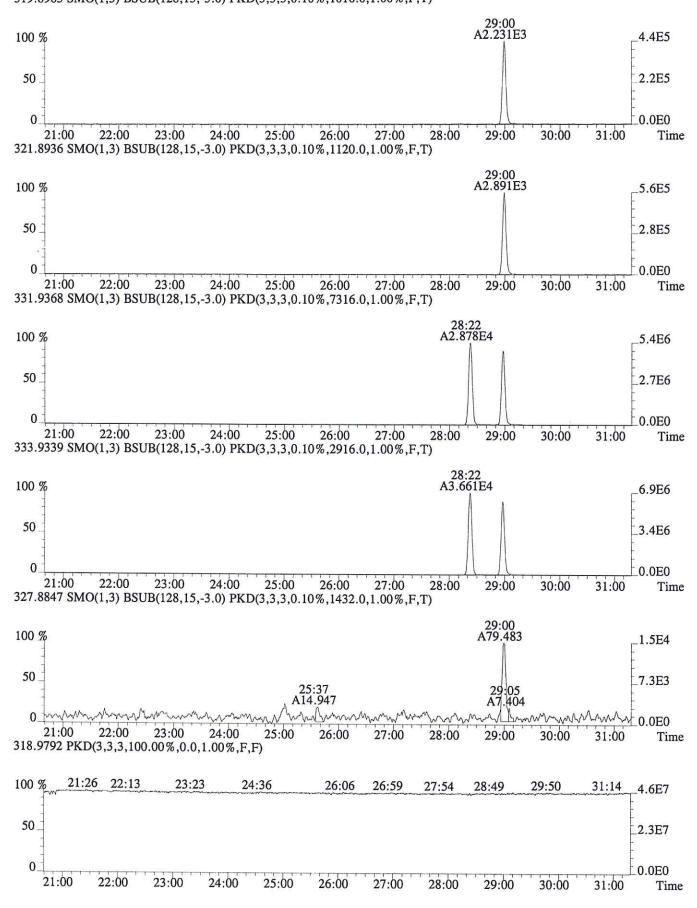
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File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)

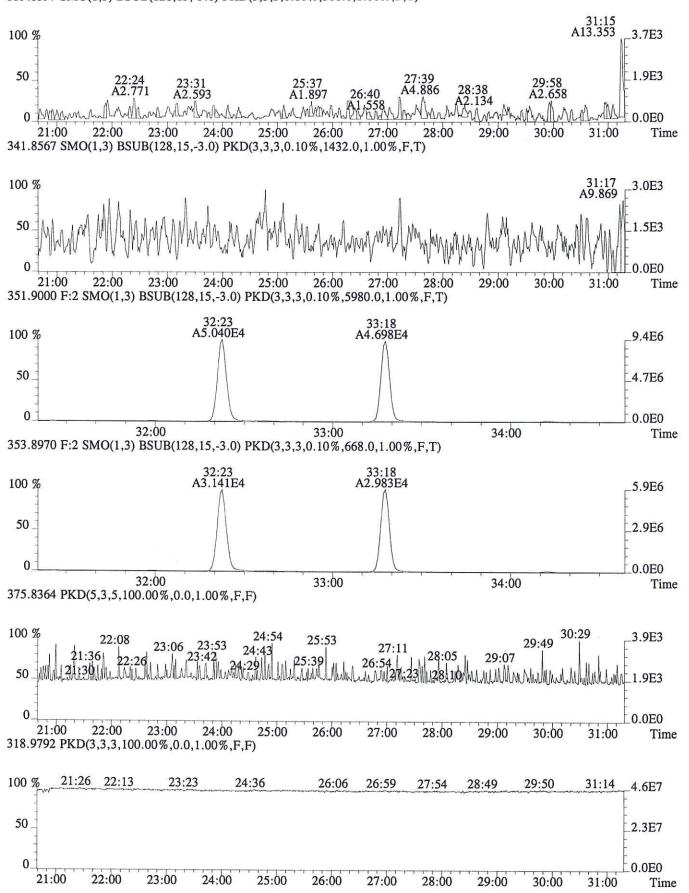


File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)

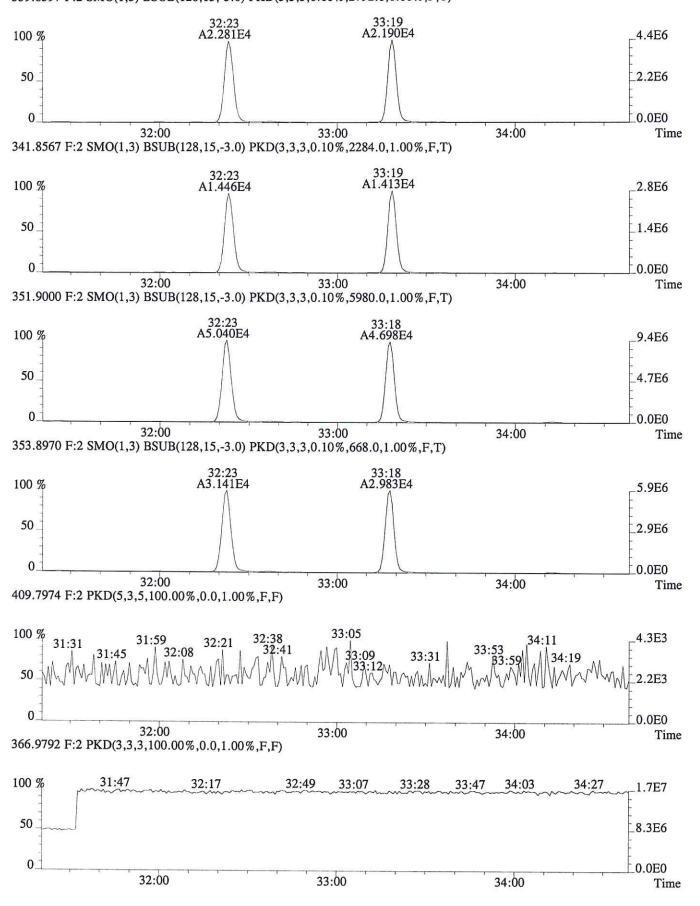


E1600282 57 of 174

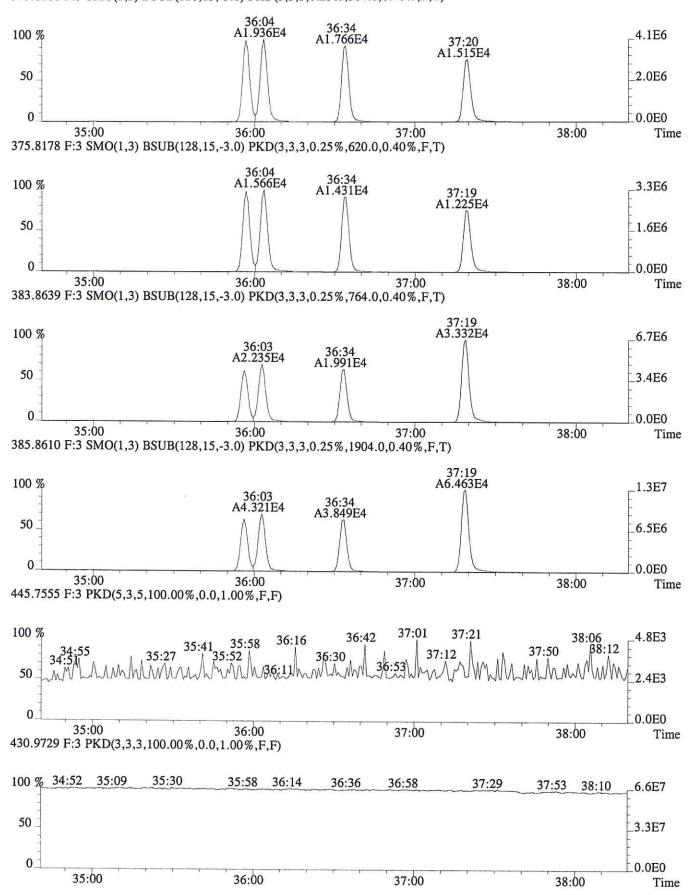
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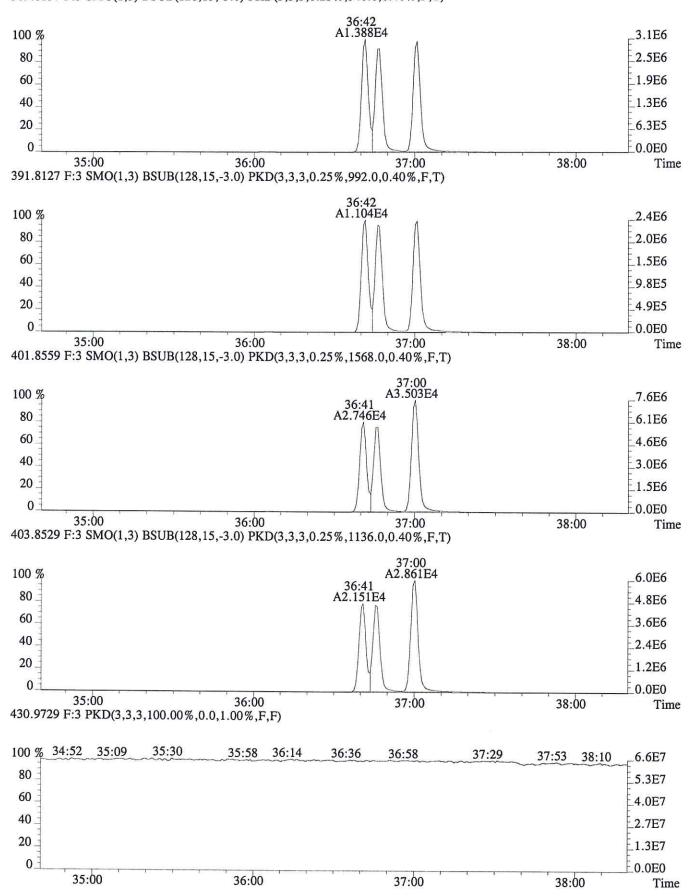
File:P604002 #1-298 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2792.0,1.00%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. DLCS

Run #8 Filename P604003 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:58:24

Processed: 1-JUL-16 15:35:43 Sample ID:	EQ1600219-03

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:15	2.475e+02	3.295e+02	0.75	yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.105e+03	1.300e+03	1.62	yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	1.781e+02	2.430e+02	0.73	yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	2.865e+03	3.441e+03	0.83	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	4.842e+03	3.037e+03	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.611e+03	2.925e+03	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.533e+03	6.873e+03	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
			•		7	å (å			
27	IS	13C-2,3,7,8-TCDD	28:59	2.121e+03	2.640e+03	0.80	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	2.977e+03	3.759e+03	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	4.340e+03	3.498e+03	1.24	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	NotFnd	*	P. Commence of Many London	,		no	0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

DLCS

Run	#8 Filename P604003	Sam		ıj: 1		26-JUN-16	03:58:24	
Processed: 1-JUL-16 15:35:43 LAB. ID: EQ1600219-03								
Name Signal 1 Noise 1 S/N Rat.1 Signal 2 Noise 2 S/N Rat.2								
1	2,3,7,8-TCDF	4.11e+04	9.20e+02	4.5e+01	5.51e+04	1.65e+03	3.3e+01	
3	2,3,4,7,8-PeCDF	3.91e+05	9.84e+02	4.0e+02	2.43e+05	1.37e+03	1.8e+02	
11	2,3,7,8-TCDD	3.31e+04	1.12e+03	3.0e+01	4.21e+04	1.22e+03	3.5e+01	
18	13C-2,3,7,8-TCDF	4.66e+05	4.36e+03	1.1e+02	5.65e+05	2.14e+03	2.6e+02	
19	13C-1,2,3,7,8-PeCDF	8.43e+05	9.84e+02	8.6e+02	5.24e+05	1.04e+03	5.1e+02	
20	13C-2,3,4,7,8-PeCDF	8.61e+05	9.84e+02	8.8e+02	5.53e+05	1.04e+03	5.3e+02	
24	13C-1,2,3,7,8,9-HxCDF	6.91e+05	6.84e+02	1.0e+03	1.32e+06	1.64e+03	8.1e+02	
26	13C-1,2,3,4-TCDF	*	4.36e+03	*	*	2.14e+03	*	
27	13C-2,3,7,8-TCDD	3.73e+05	6.87e+03	5.4e+01	4.77e+05	3.12e+03	1.5e+02	
33	13C-1,2,3,4-TCDD	5.41e+05	6.87e+03	7.9e+01	6.72e+05	3.12e+03	2.2e+02	
34	13C-1,2,3,7,8,9-HxCDD	8.67e+05	1.60e+03	5.4e+02	7.17e+05	1.18e+03	6.1e+02	
35	37C1-2,3,7,8-TCDD	*	1.58e+03	*				

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

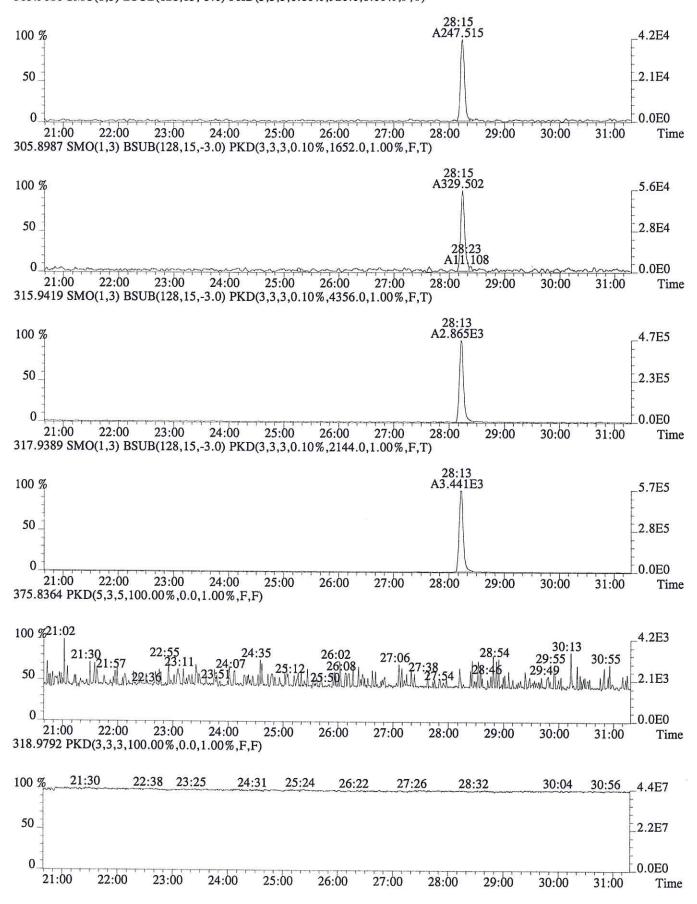
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

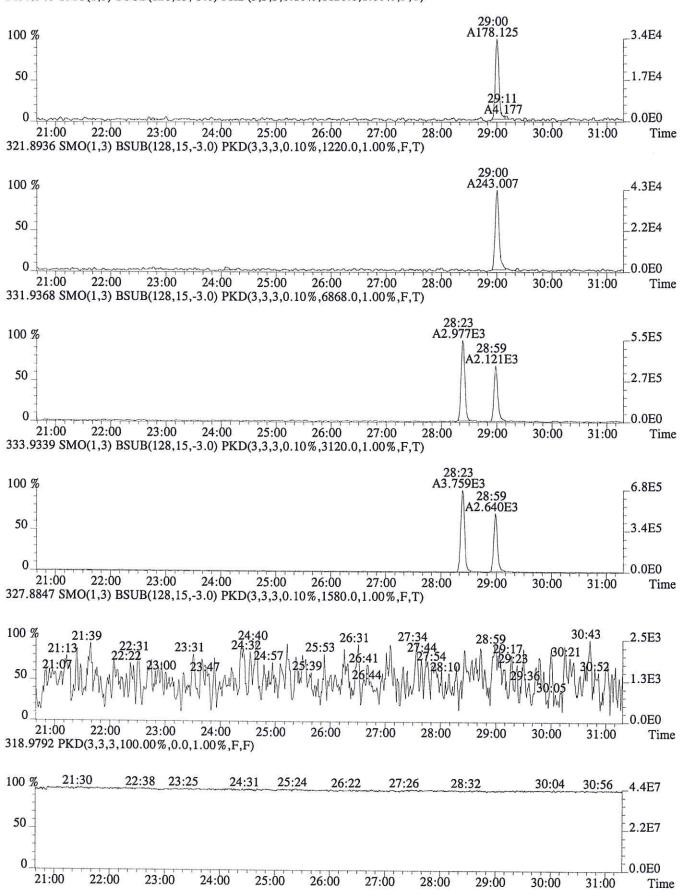
E1600282 63 of 174

File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)

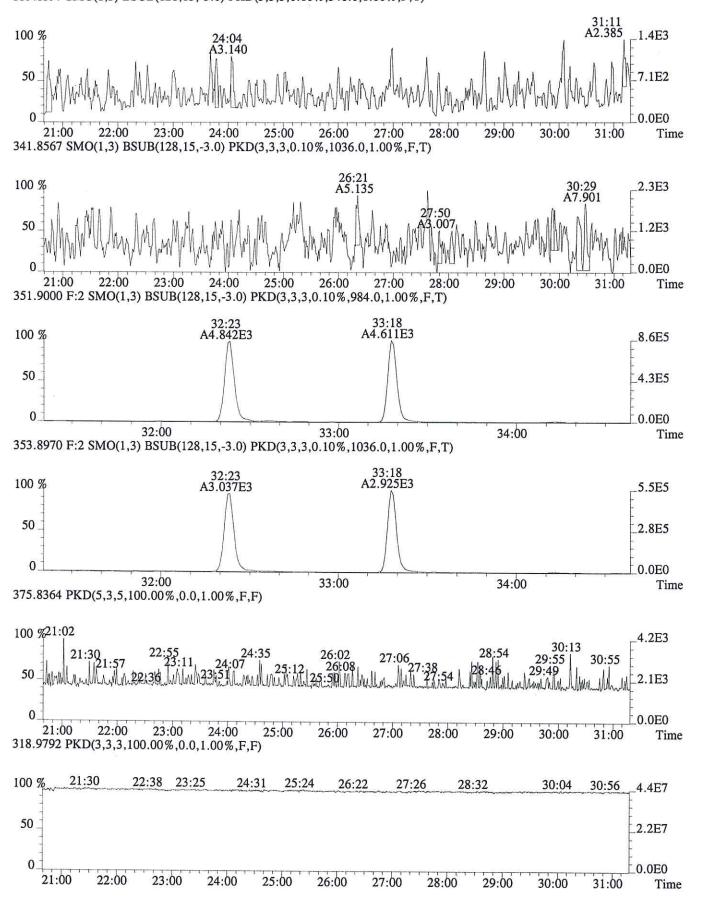


E1600282 64 of 174

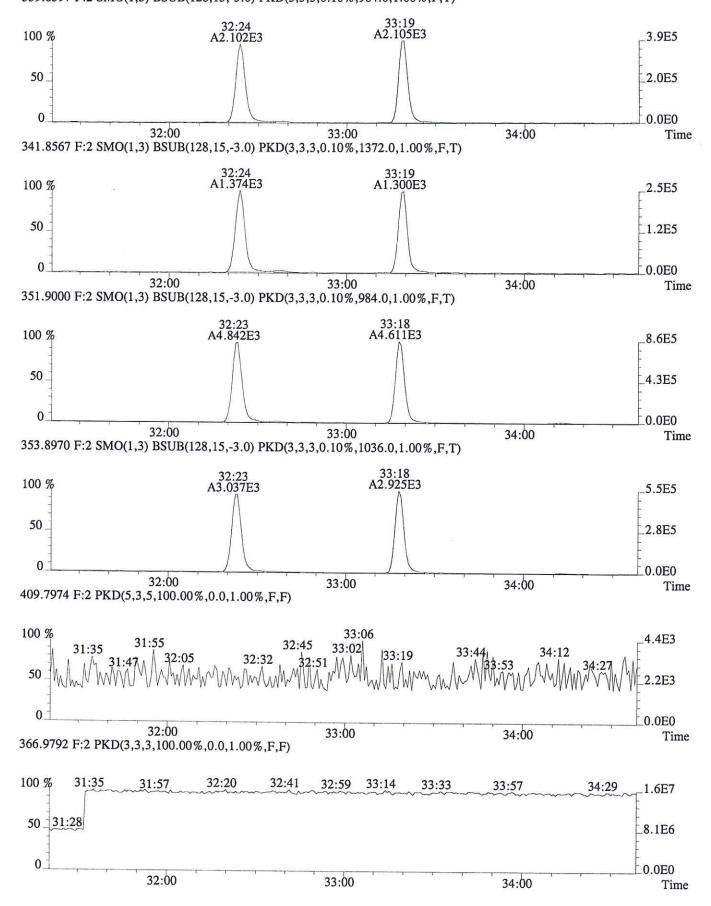
File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,T)



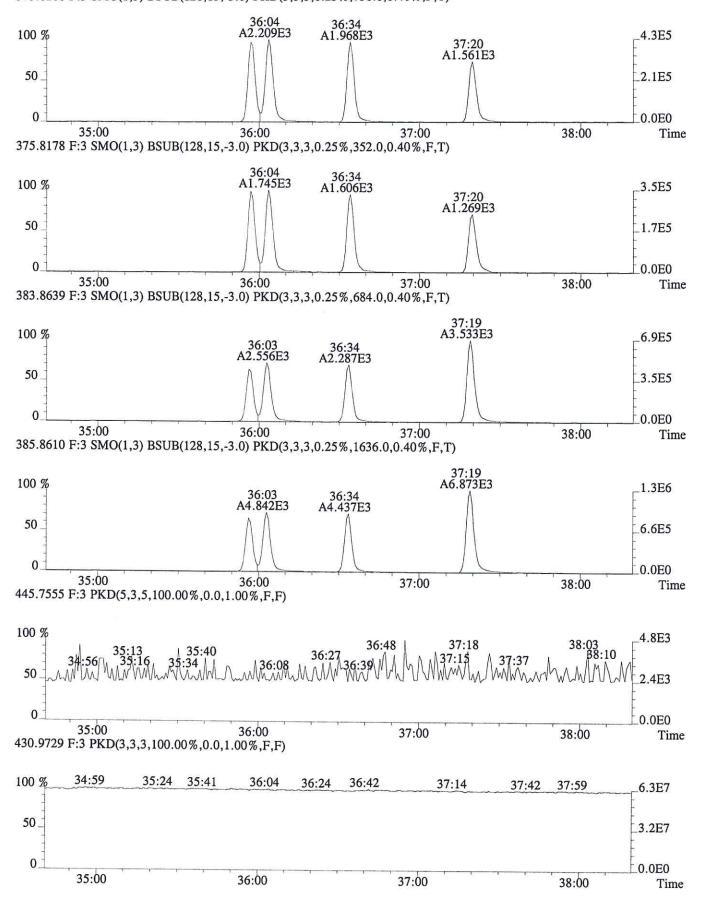
File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



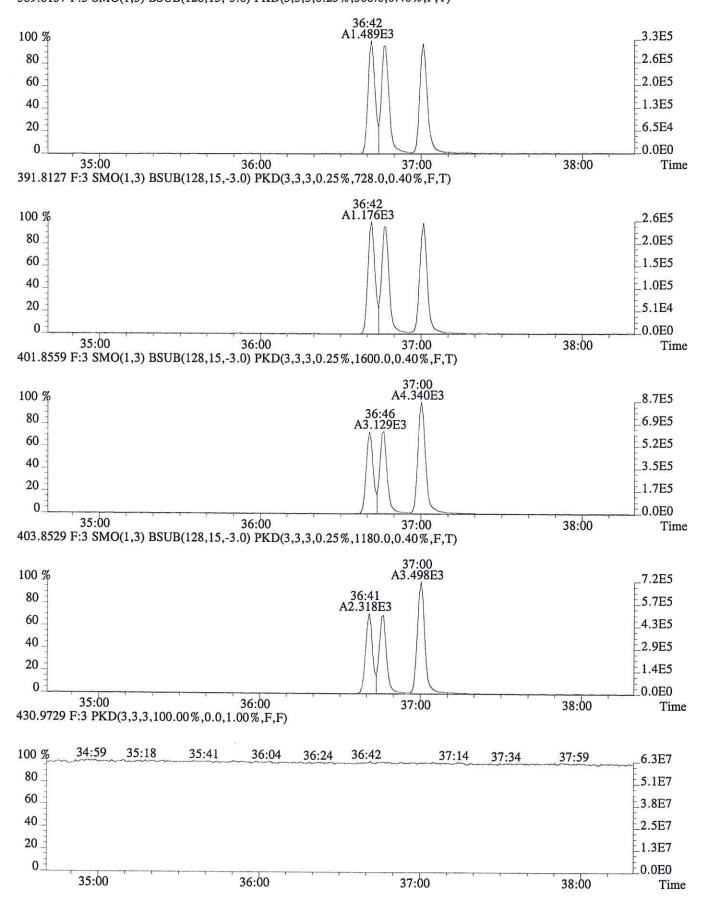
File:P604003 #1-298 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



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Continuing Calibration

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: <u>P603991</u> Date: <u>O62516-06</u> 2611	Beginning Circle or	ne: Ending
Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD O		f / 8280 / M23 / TO-9A
Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled		/
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters		
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)		**
CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria		
All relative abundance ratios meet method criteria		
No QC ion deflections of greater than 20% (HRMS Only)		
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)		
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column		
Signal-to-noise of all target analytes and their labeled standards at least 10:1		
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	OA	NA
Ending Calibration injected prior to end of 12 hour clock	NA	NA
Analyst:ccalqc.xls 07/17/12	Second QC:	KL

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5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib.Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
===========	==============		=======================================	========
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
BAD INJECTION	EQ1600219-01*	P603992	25-JUN-16	18:59:09
METHOD BLANK	EQ1600219-01	P603993	25-JUN-16	19:48:09
04052016SJPW10	E1600282-006	P603994	25-JUN-16	20:37:12
03162016SJGW1	E1600326-001	P603995	25-JUN-16	21:26:14
04072016SJGW1	E1600326-002	P603996	25-JUN-16	22:15:14
04072016SJGW2	E1600326-003	P603997	25-JUN-16	23:04:16
04072016SJGW10	E1600326-004	P603998	25-JUN-16	23:53:17
04072016SJGW11	E1600326-005	P603999	26-JUN-16	00:42:18
04072016SJGW12	E1600326-006	P604000	26-JUN-16	01:31:21
04072016SJGW13	E1600326-007	P604001	26-JUN-16	02:20:22

FORM V-HR CDD-3

DLM02.0(5/05)

E1600282 72 of 174

Page 1 of USEPA - CLP

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
LCS	EQ1600219-02	P604002	26-JUN-16	03:09:23
DLCS	EQ1600219-03	P604003	26-JUN-16	03:58:24

FORM V-HR CDD-3

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DLM02.0(5/05)

E1600282

Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List:

C:\MassLynx\EHRMS08.PRO\SampleDB\20160625B.SPL

Last Modified:

Friday, July 01, 2016 08:52:16 Eastern Daylight Time

Printed:

Friday, July 01, 2016 08:52:25 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

opus4: P603991res; P603991res2

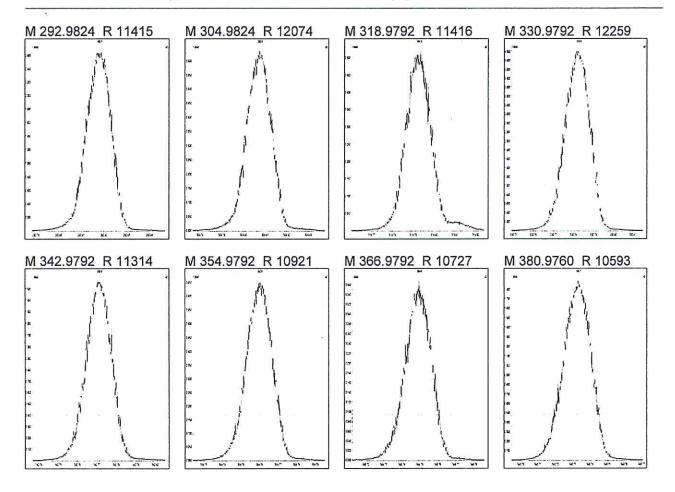
	Dete	Time	Tile Messes	I - 1 0 1 - 1D	OI: 4 E'' E 4	5				- ,
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	06/25/16	17:21	P603990	87077	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LKL	HRMS check 16:28
2		18:10	P603991	173638	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		19:59	P603992	EQ1600219-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		Bad injection
4		19:48	P603993	EQ1600219-01	MB	Tray1:4	EPA1613 ALS	Dioxin ALS		
5		20:31	P603994	E1600282-006	E1600282-006	Tray1:5	EPA1613_ALS	Dioxin_ALS		
6		_alia6	P603995	E1600326-001	E1600326-001	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		22:15.	P603996	E1600326-002	E1600326-002	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8		23:04	P603997	E1600326-003	E1600326-003	Tray1:8	EPA1613_ALS	Dioxin_ALS		
9	,\v/ ,	2353	P603998	E1600326-004	E1600326-004	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10	06/26/16	00142	P603999	E1600326-005	E1600326-005	Tray1:10		Dioxin_ALS		
11		01:31	P604000	E1600326-006	E1600326-006	Tray1:11		Dioxin ALS		
12		02:20	P604001	E1600326-007	E1600326-007		EPA1613 ALS	Dioxin_ALS		
13		03109.	P604002	EQ1600219-02	LCS	Tray1:13	EPA1613 ALS	Dioxin ALS		
14		03:09	P604003	EQ1600219-03	DLCS	Tray1:14	EPA1613_ALS	Dioxin_ALS		
15	<u> </u>	04:55	P604004	173638	CS3		EPA1613 ALS	Dioxin_ALS		HRMS check 08121
16						Tray1:16	EPA1613_ALS	Dioxin_ALS		
17						Tray1:17	EPA1613_ALS	Dioxin_ALS		
18						Tray1:18	EPA1613_ALS	Dioxin_ALS		K
19						Tray1:19		Dioxin_ALS		
20					(5000)	Tray1:20	EPA1613_ALS	Dioxin_ALS		
21			^			Tray1:21	EPA1613_ALS	Dioxin_ALS		
22			- ()			Tray1:22		Dioxin_ALS		
23			1 1/	11		Tray1:23	EPA1613_ALS	Dioxin_ALS		
24			(1)	`-J		Tray1:24	EPA1613_ALS	Dioxin_ALS		
25			4	- 1 1		Tray1:25	EPA1613_ALS	Dioxin_ALS		
26				ATI MILL		Tray1:26	EPA1613_ALS	Dioxin_ALS		
27			111	(+///)	Λ	Tray1:27	EPA1613_ALS	Dioxin_ALS		
28			V (ナロロハリ)	Tray1:28	EPA1613_ALS	Dioxin_ALS	-	
29	(##E					Tray1:29	EPA1613_ALS	Dioxin_ALS		NAME OF THE PARTY
30						Tray1:30		Dioxin_ALS		
31						Tray1:31	EPA1613_ALS	Dioxin_ALS		
32						Tray1:32		Dioxin_ALS		
33						Tray1:33		Dioxin_ALS		
34		Section 1				Tray1:34		Dioxin_ALS		
35						Tray1:35	EPA1613_ALS	Dioxin_ALS		
36	-					Tray1:36	EPA1613_ALS	Dioxin_ALS	-	
37					× 	Tray1:37	EPA1613_ALS	Dioxin_ALS) ((())) (()	
38						Tray1:38	EPA1613_ALS	Dioxin_ALS		
39						Tray1:39	EPA1613_ALS	Dioxin_ALS		
						227				

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time



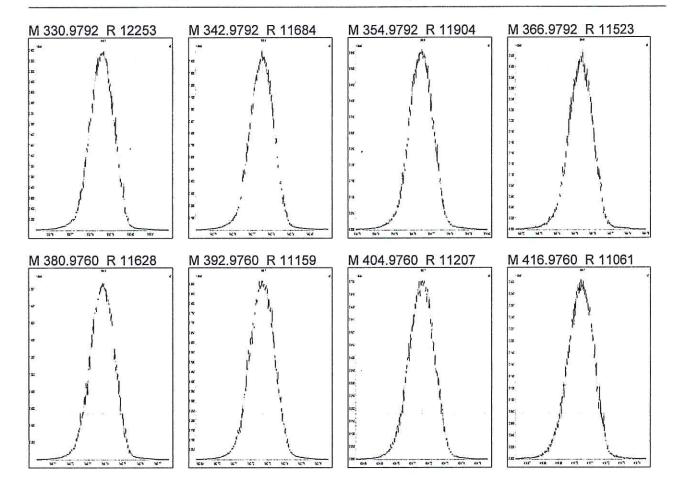
E1600282 75 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



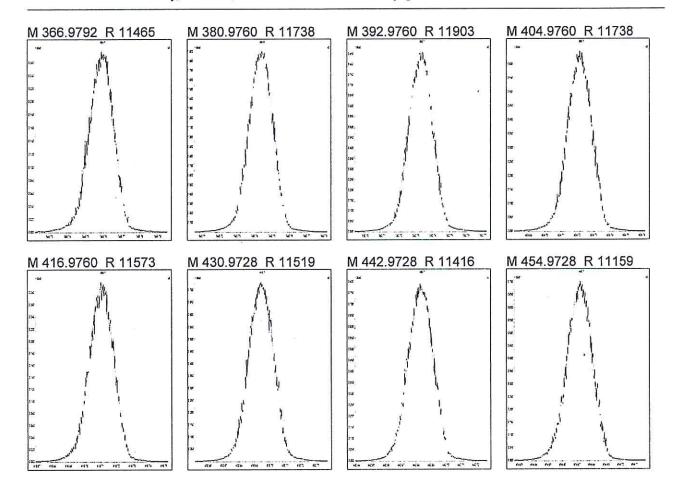
E1600282 76 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



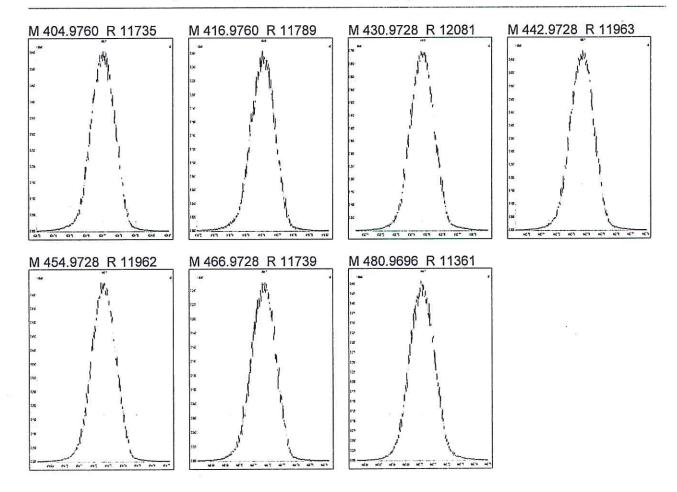
E1600282 77 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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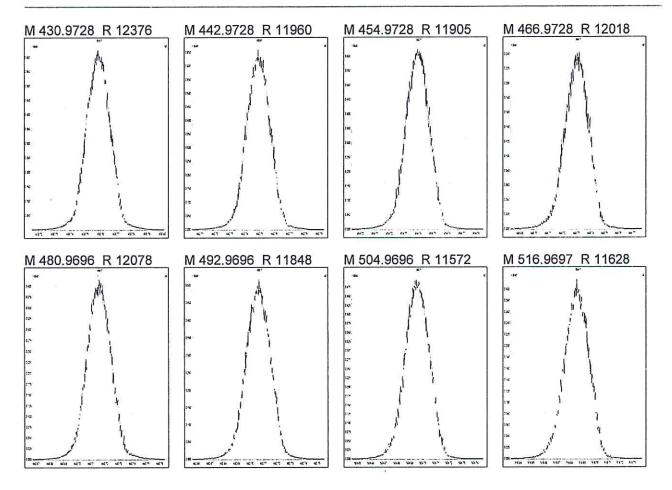
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E1600282 78 of 174

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Printed: Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



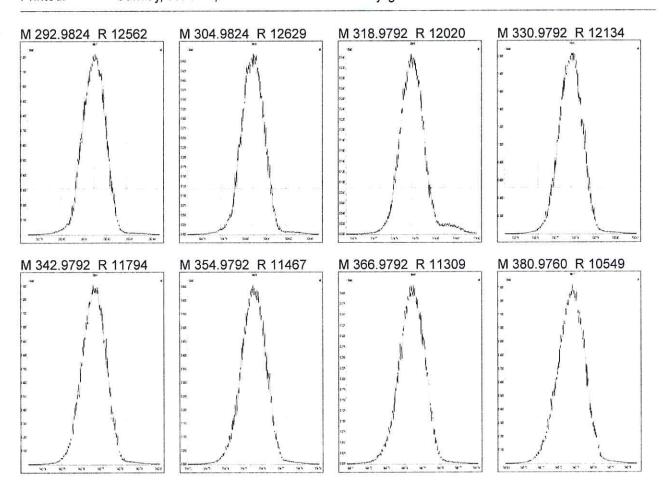
E1600282 79 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:21:50 Eastern Daylight Time



E1600282 80 of 174

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

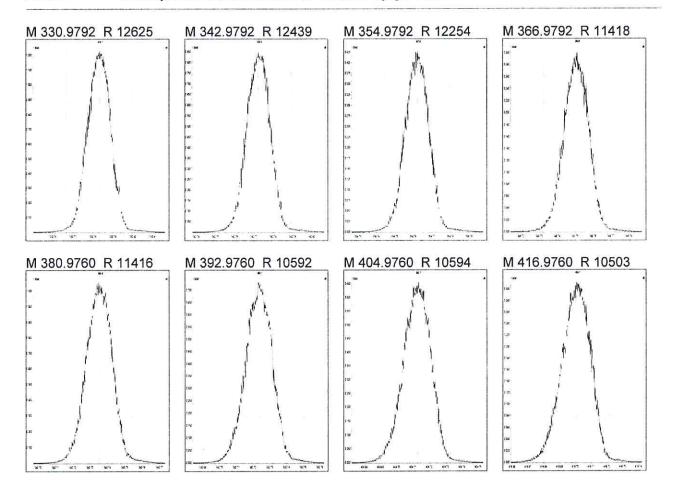
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:23:16 Eastern Daylight Time



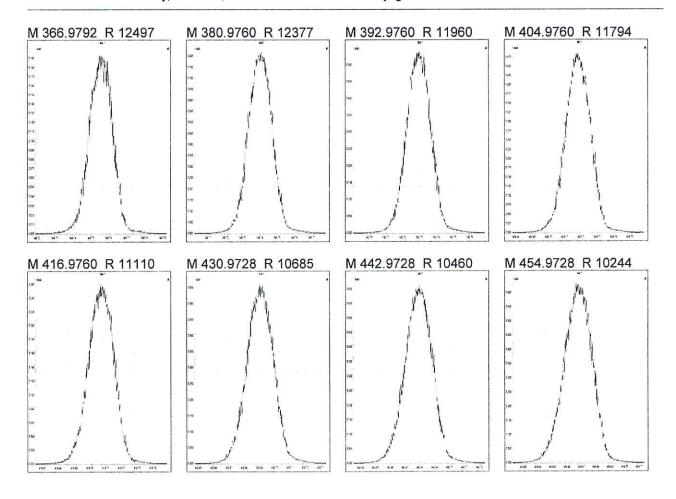
E1600282 81 of 174

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:24:38 Eastern Daylight Time



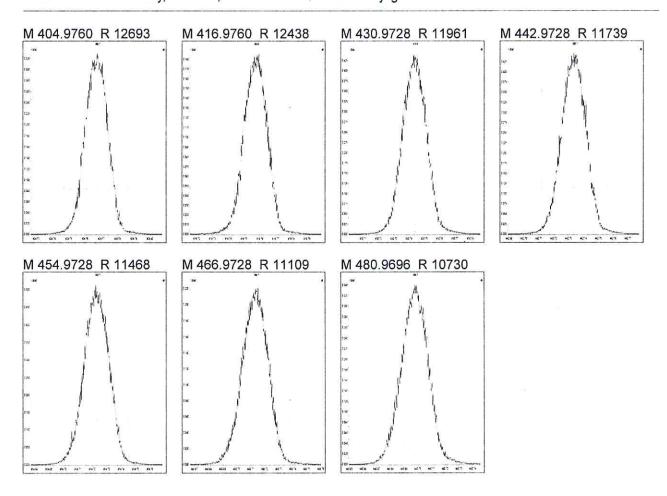
E1600282 82 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:25:52 Eastern Daylight Time



E1600282 83 of 174

MassLynx 4.1 SCN815 SCN795

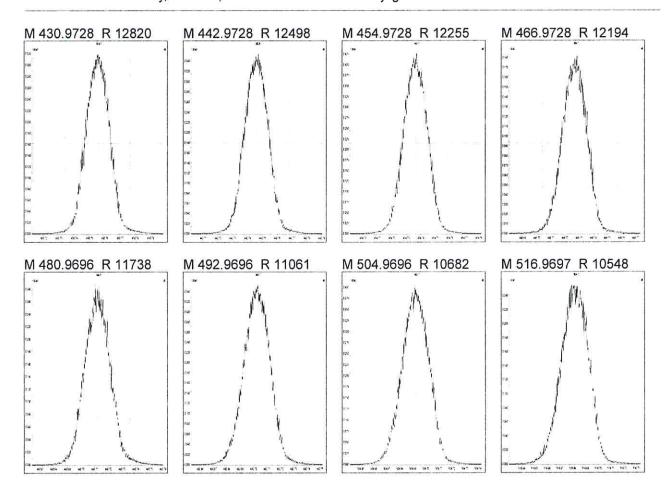
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:27:02 Eastern Daylight Time



E1600282 84 of 174

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT	ID:
WDM	

Lab Name: ALS Environmental Lab Code: ALSTX

GC Column: DB-5MSUI

Case No.: ____

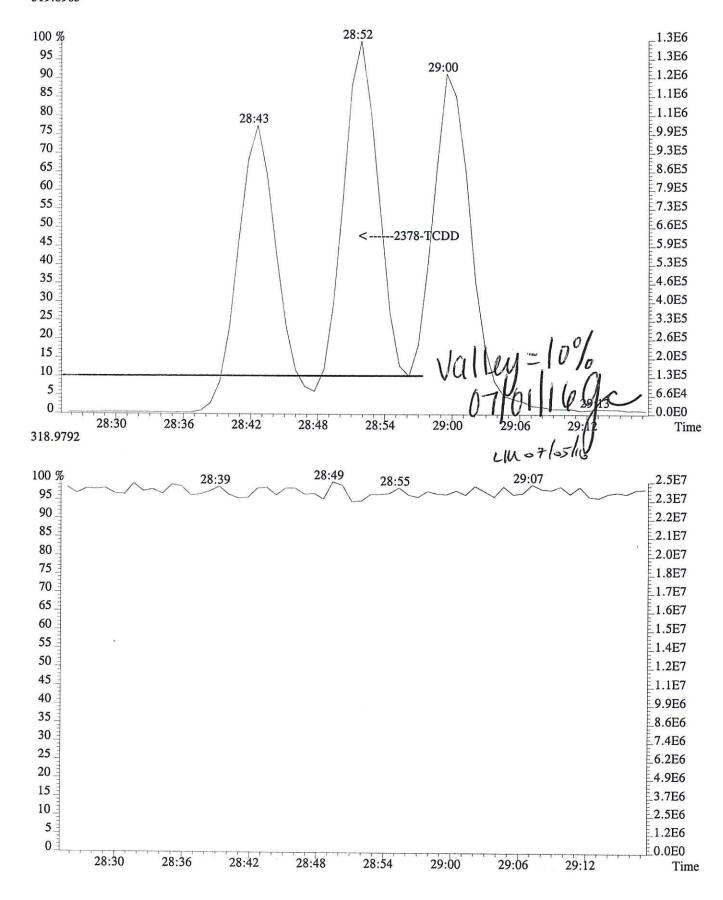
____ SDG No.: Lab File ID: P603990 ID: 0.25 (mm)

Date Analyzed: 25-JUN-2016 Time Analyzed: 17:21:07

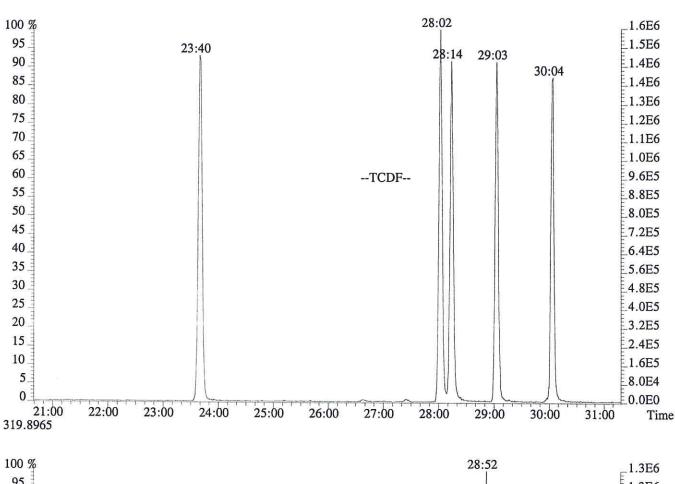
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:40	30:04
TCDD	25:32	29:52
PeCDF	29:56	34:13
PeCDD	31:29	33:57
HxCDF	34:50	37:22
HxCDD	35:21	36:56

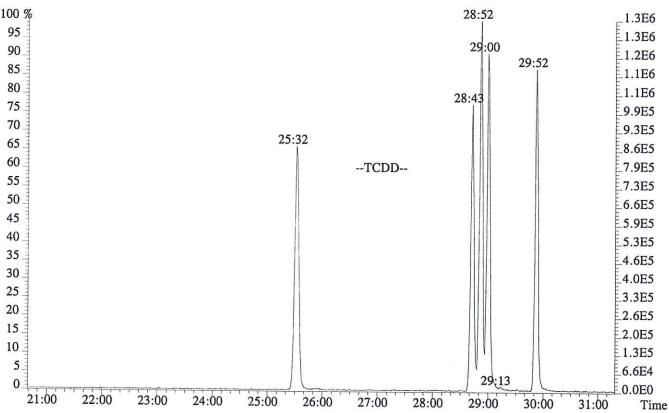
[%] Valley 2378-TCDD:

^{10 %}



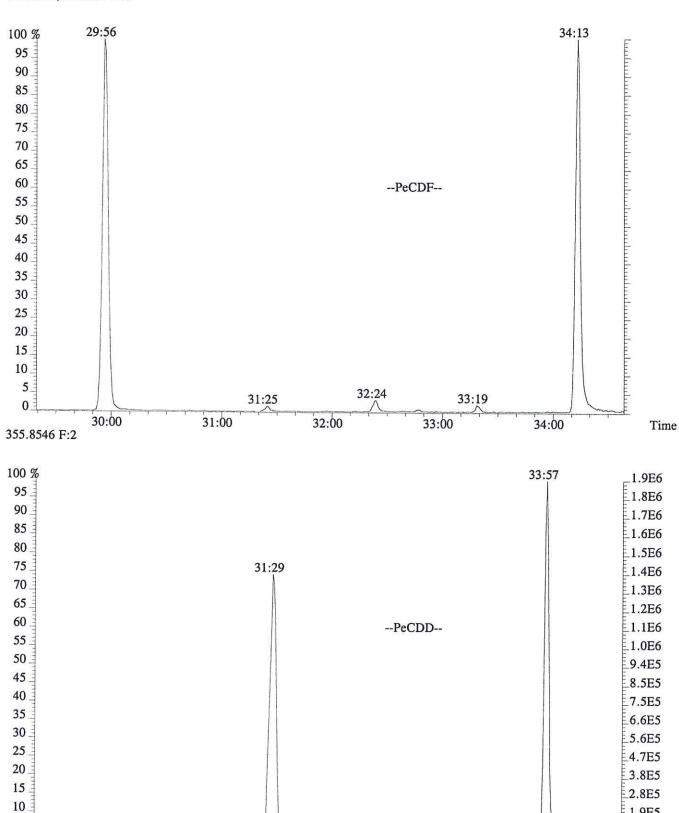
File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016





E1600282 87 of 174

File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



32:00

1.9E5

9.4E4

0.0E0

Time

33:35

33:00

34:00

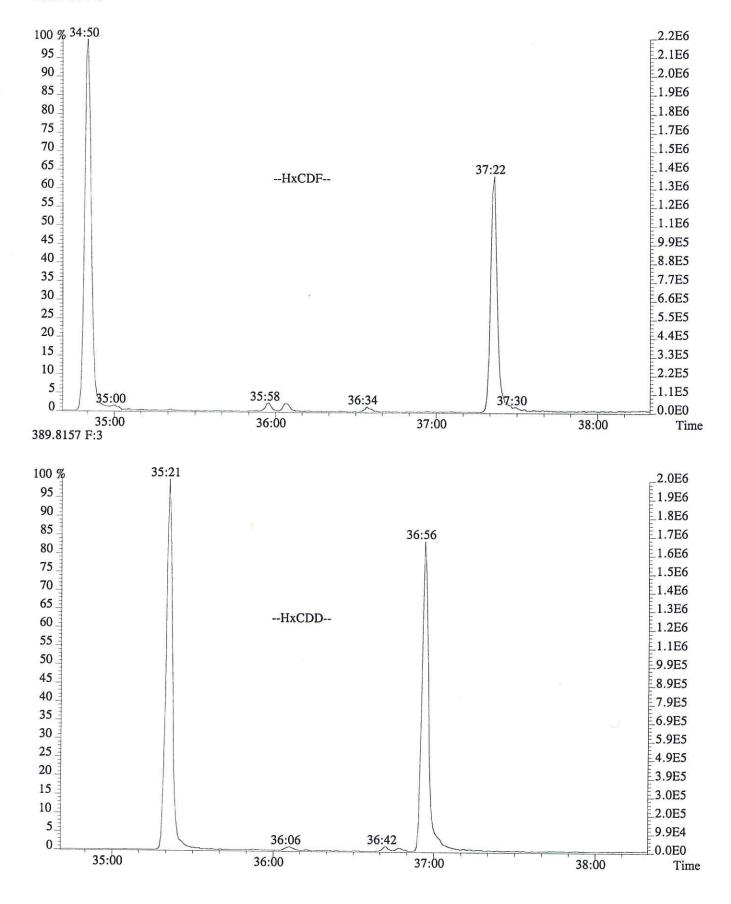
E1600282 88 of 174

31:00

30:00

5

File:P603990 #1-329 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	4.7	3.9 - 6.45	-6.5
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	4.9	4.2 - 6.0	-1.2
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25.0	20.5 - 30.5	0.0

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.
- (4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
 Method 8290
 12/2012
 1613F4A.FRM

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SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	51	41 - 60.5	1.9
13C-1,2,3,4-TCDF	M/M+2	0.78	0.65-0.89	40	35.5-70	-20.5
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.80 1.59	0.65-0.89 1.32-1.78	49 50	35.5-70 38 - 65	-1.2 -0.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	50	38.5 - 65	-0.8
13C-1,2,3,7,8,9-HxCD	F	0.51	0.43-0.59	50	37 - 67.5	0.5
37C1-2,3,7,8-TCDD				5	3.9 - 6.35	2.4

(4)

12/2012 1613F4B.FRM

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

Run #6 Filename P603991 Samp: 1 Acquired: 25-JUN-16 18:10:07 Inj: 1 Processed: 1-JUL-16 11:44:17 Sample ID: CS3 Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:14 7.317e+039.442e+030.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 3.478e+04 5.372e+04 1.54 yes no 0.929 11 Unk 2,3,7,8-TCDD | 29:00 5.621e+03 0.76 yes 7.353e+03no 1.048 18 IS 13C-2,3,7,8-TCDF 28:12 0.80|yes 7.876e+04 9.855e+04 no 1.283 19 IS 13C-1,2,3,7,8-PeCDF 32:23 1.179e + 057.427e+04 1.59 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:18 1.170e+05 7.340e+041.59 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF 37:19 3.766e+04 7.400e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF | 26:58 8.258e+04 6.477e+04 0.78 yes yes 1.325 27 IS 13C-2,3,7,8-TCDD 28:58 5.848e+04 7.390e+040.79 yes no 0.929 33 RS/RT 13C-1,2,3,4-TCDD 28:23 7.805e+04 0.79 yes 6.187e+04 no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 7.014e+04 5.687e+04 1.23 yes no 35 C/Up 37C1-2,3,7,8-TCDD 29:00 1.354e+04 no 0.945

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Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173638

Run #6 Filename P603991 Samp: 1 Inj: 1 Acquired: 25-JUN-16 18:10:07 Processed: 1-JUL-16 11:44:17 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	1.31e+06	1.20e+03	1.1e+03	1.69e+06	3.98e+03	4.2e+02
3	2,3,4,7,8-PeCDF	1.05e+07	6.46e+03	1.6e+03	6.82e+06	1.05e+04	6.5e+02
11	2,3,7,8-TCDD	1.05e+06	1.33e+03	7.9e+02	1.39e+06	1.12e+03	1.2e+03
18	13C-2,3,7,8-TCDF	1.41e+07	5.64e+03	2.5e+03	1.78e+07	2.72e+03	6.5e+03
19	13C-1,2,3,7,8-PeCDF	2.17e+07	2.08e+04	1.0e+03	1.36e+07	1.43e+04	9.6e+02
20	13C-2,3,4,7,8-PeCDF	2.28e+07	2.08e+04	1.1e+03	1.43e+07	1.43e+04	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	7.47e+06	1.48e+03	5.0e+03	1.45e+07	2.10e+03	6.9e+03
26	13C-1,2,3,4-TCDF	1.06e+07	5.64e+03	1.9e+03	1.34e+07	2.72e+03	4.9e+03
27	13C-2,3,7,8-TCDD	1.08e+07	8.37e+03	1.3e+03	1.37e+07	3.50e+03	3.9e+03
33	13C-1,2,3,4-TCDD	1.14e+07	8.37e+03	1.4e+03	1.43e+07	3.50e+03	4.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.40e+07	2.88e+03	4.8e+03	1.12e+07	9.96e+02	1.1e+04
35	37Cl-2,3,7,8-TCDD	2.55e+06	2.30e+03	1.1e+03	•		

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

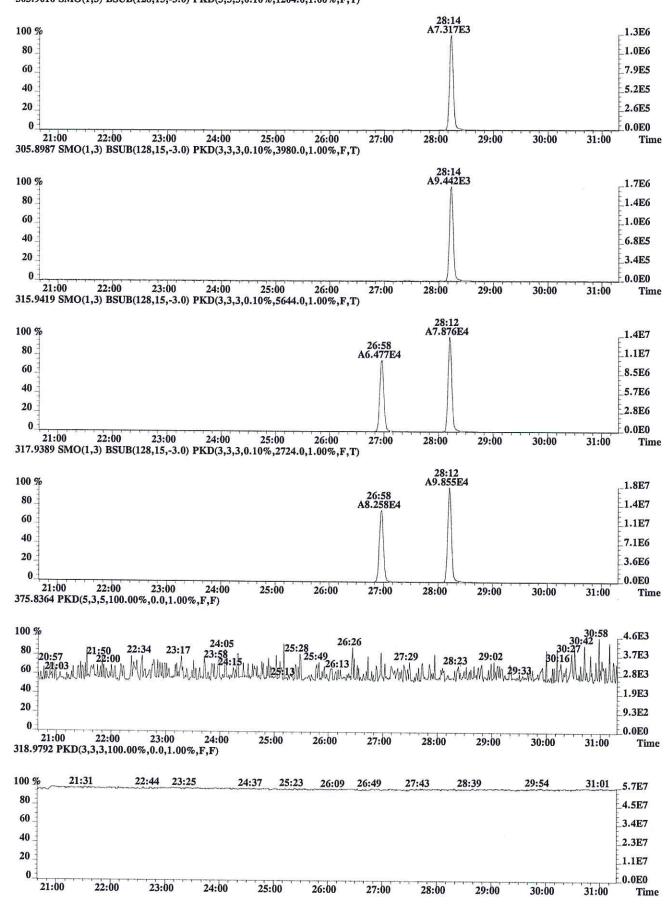
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

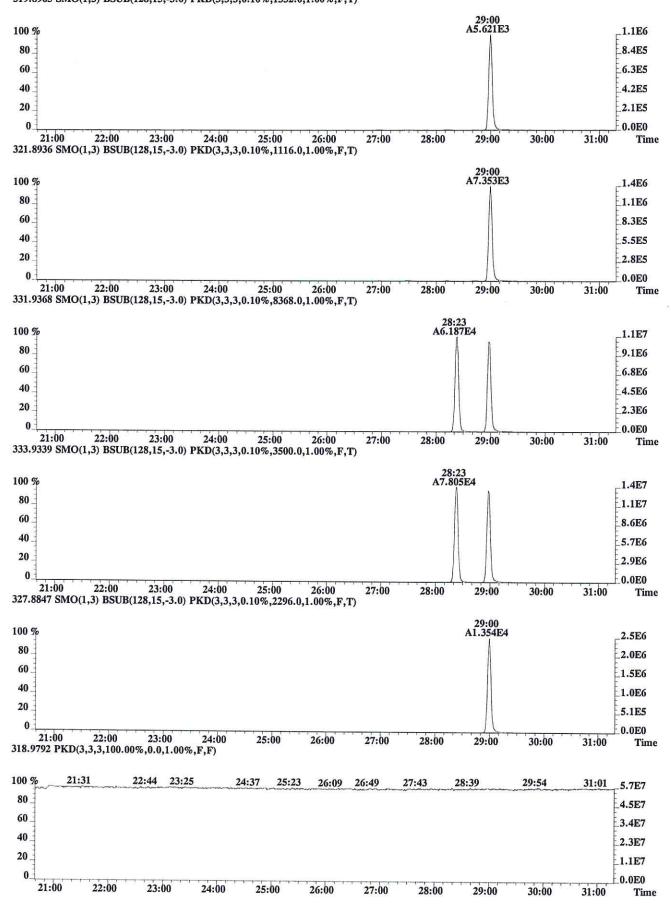
E1600282 93 of 174

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,T)



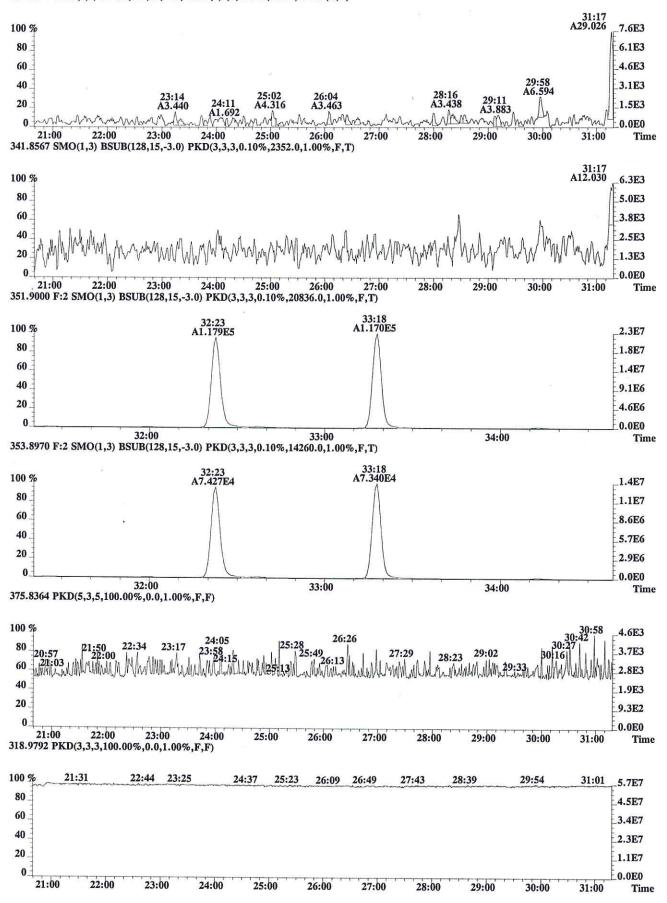
E1600282 94 of 174

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)

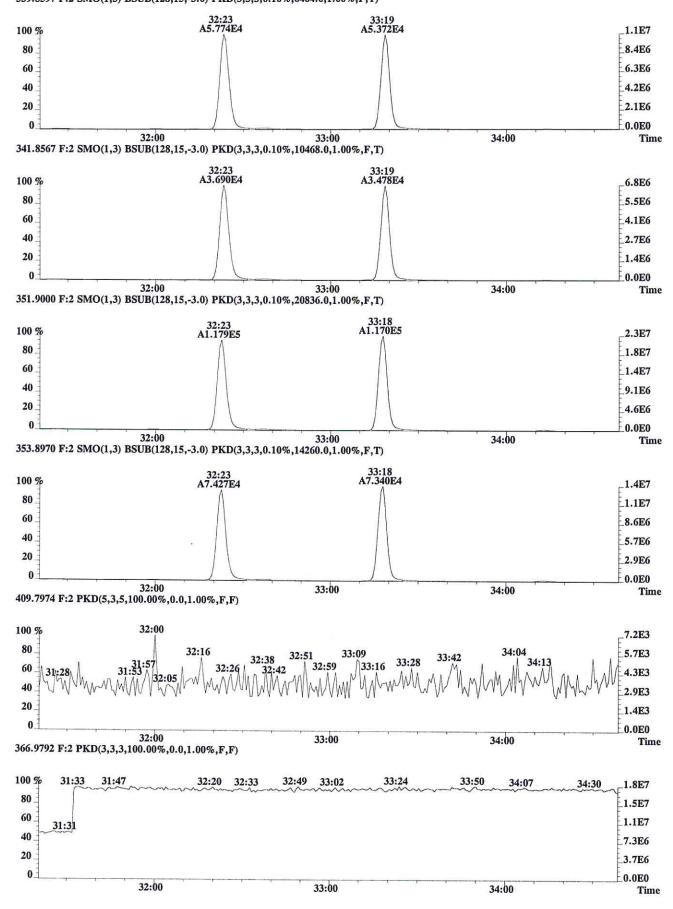


E1600282 95 of 174

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)

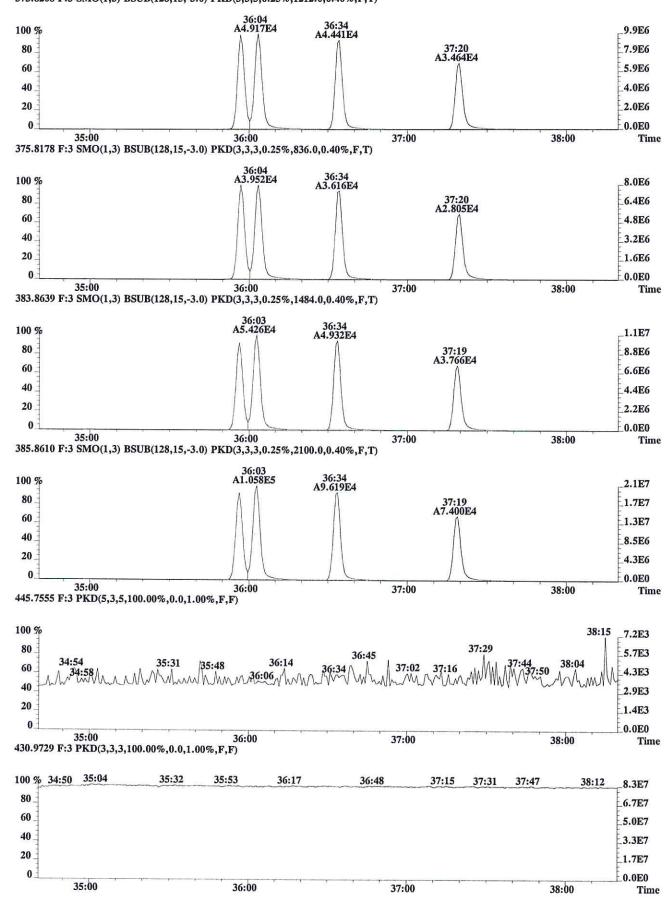


File:P603991 #1-298 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6464.0,1.00%,F,T)



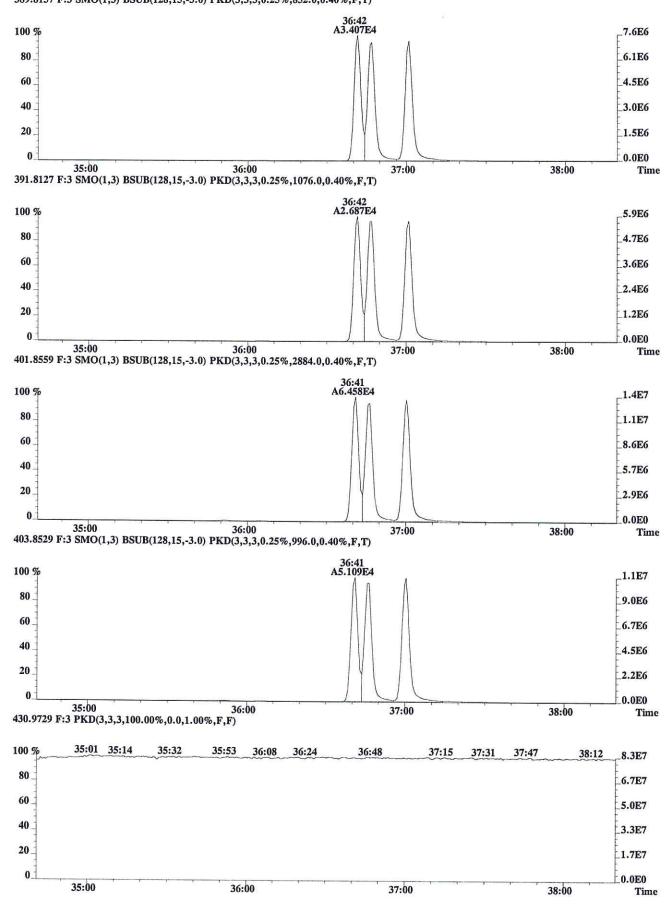
E1600282 97 of 174

File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



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File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)





Initial Calibration

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	Process Date: 0	6/25/2	016			
Instrument Name: E-HRMS-08	Jame. I	26-160	625SPN	/CI		
Processor Name: Gisela Cruz			023311	/161		
Supervisor: Andy Neir	Reviewer Name:	LUAIT L	uong			
Description		Yes	No	NA	NR	ER#
		1.03	140	IVA	IVIX	LIXT
Analytical Sequence				S Ollows		BALLEDY.
Does the analytical sequence summary accurately reflect	the instrument					NA COMPANY DE L'ANNE
run log, including ICV?		√				
Was a Mass Resolution Check performed at the beginning	and end of the					
12-hour sequence?		√				
Were all calibration standards and the ICV analyzed withi	n the same 12-					
hour sequence?		✓				
Were all calibration standards analyzed only once?		√				
Was the ICV analyzed after the ICAL, before analyzing sar	mples?	1				
		1				
Mass Resolution Check						
Are beginning and ending resolution checks provided and	d legible?	1				
Were all target masses >10,000 resolving power at the be	eginning of the					
sequence?		√				
Were all target masses >10,000 resolving power at the er	nd of the					
sequence?		√				
For PCB analysis, were masses at the low and high end of	each function					
mass range >8,000?			111	- √	1	
Where automatic printout of the mass resolution were no	t >10,000, was					
the resolution inspected by a trained analyst, including mof the resolution, if warranted?	ianual calculation					
of the resolution, if warranted?				↓ √		
Window Define/209		Marshall (Marshall (Marsha	(1) (1) (1) (1) (1)	The same of the	OSCHOOL INCH	100000000000000000000000000000000000000
Is the window defining mix summary present, and accom	panied by	ALC: NO.		SIT IZ (
SICPs/Chromatograms for the WDM?	panied by	,				
Was the WDM/Column Performance/209 solution analyze	d prior to the	√				
analysis of the calibration standards?	a prior to the	,				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?		√ √				-
Were all first and last eluters adequately resolved in each	function?	1				
If first and last eluters were not resolved, was corrective a	ction performed	V				
and documented, followed by a reanalysis of the WDM?	action periorined			1		
Was the retention time of PCB 209 >55 min?				1		
Were the following congeners uniquely resolved (valley he	eight <40% of the			V		
shortest peak)?	ingine 410% of the					
PCB-34 and PCB-23						
PCB-187 and PCB-182			\checkmark			
Did PCB 156/157 co-elute within 2 seconds at peak maxin	num?			3/		
				V		
Calibration Standards		ELDERA				
Were there at least 5 calibration standards analyzed?		√				
If not all calibration standards were used, were the omitte	d standards	*				
either the lowest or highest calibration standard?				🗸		
Are all sample response summaries, S/N height summarie	es, and SICPs	√		*		
				Li-		

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2 revised 3/1/13

Page 1

Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	rocess Date: 06	5/25/2	016			
	Calibration File Name: P6-160625SPME				ИEI	
Processor Name: Gisela Cruz	Reviewer Name:	Loan L	uong			
Supervisor: Andy Neir						
Description		Yes	No	NA	NR	ER#
included (and legible) for the entire sequence?						
Did each calibration point meet method criteria for Ion Aburfor all analytes and labeled standards?		1				
Did each calibration point meet method criteria for signal-to (S/N)?		1				
Were area counts for the highest calibration standard below saturation?		1				
Were manual integrations technically justified to correct for integration?	poor software	1				1
Response Factors						
Is the ICAL Response Factor Summary present, including RR each native/labeled analyte at each level of calibration?		1				
Were all calibration standards used in determining response	factors?	√				
Were relative response factors (RR) for each native analyte c each calibration point?	alculated at	1				
Did the RSD for RRFs for each native analyte meet method c	riteria?	√				
Were response factors (RF) for each native analyte not havin corresponding labeled compound calculated at each calibrate	√					
Were RFs for each labeled compound calculated for each calibration point?						
Did the RSD for RF for each labeled compound meet method	criteria?	√				
Initial Calibration Verification						
Is the calibration verification present, including form 4A/B r results for the ICV (Conc. or %D)	eflecting	1				
Did all analytes meet method criteria for the ICV.						

Method: SPME		Review Checklist: Initial Calibration Process Date: 06/25/2016
Instrument Nam	e F-HRMS-08	
		Calibration File Name: P6-160625SPMEI
Processor Name: Gisela Cruz Reviewer Name: Loan Luong		
ER#5 Description	n	
1 and second chromatog	lary ions. Before and afte	to correct inconsistent baseline determinations between primary er chromatograms provided. Where there is no after ication reflects an update to reconcile response values between omatograph.
NA = Not Applical	ole;	
NA = Not Applical NR = Not Reviewe		

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2

Page 2

revised 3/1/13

ALS ENVIRONMENTAL

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: TX01411 Episode No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm) Instrument ID: E-HRMS-08

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, SPIKES AND DUPLICATES IS AS FOLLOWS:

EPA SAMPLE NO.			DATE ANALYZED	TIME ANALYZED
=======================================	=======================================		-==-=======	========
87077	WINDOW DEFINE	P603981	25-JUN-16	09:17:10
173636	CS1	P603982	25-JUN-16	10:06:18
173637	CS2	P603983	25-JUN-16	11:09:26
173638	CS3	P603984	25-JUN-16	11:55:54
173639	CS4	P603985	25-JUN-16	12:52:51
173640	CS5	P603986	25-JUN-16	13:45:46
CS3 2ND SOURCE	CS3 2ND SOURCE	P603988	25-JUN-16	15:21:10

3

5

6

8

9

Sample List Report	MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20160625.SPL Last Modified: Friday, July 01, 2016 08:45:44 Eastern Daylight Time

Page 1 of 2

Printed: Friday, July 01, 2016 08:48:07 Eastern Daylight Time

Page Position (1, 1)

Date Time File Name Lab Sample ID Client File Text **Bottle** MS File Inlet File Analyst Comments HRMS check 09:11 09:17 P603981 87077 WINDOW DEFINE EPA1613 ALS Dioxin ALS LKL Tray1:1 P603982 173636 CS₁ Tray1:2 EPA1613_ALS Dioxin ALS P603983 173637 CS₂ EPA1613_ALS Dioxin_ALS Tray1:3 P603984 173638 CS₃ Tray1:4 EPA1613 ALS Dioxin ALS P603985 173639 CS4 Tray1:5 EPA1613 ALS Dioxin ALS P603986 173640 CS₅ Tray1:6 EPA1613 ALS Dioxin ALS P603987 NONANE NONANE Tray1:7 EPA1613 ALS Dioxin ALS P603988 CS3 2ND SOURCE CS3 2ND SOURCE Tray1:8 EPA1613 ALS Dioxin ALS P603989 NONANE NONANE EPA1613_ALS Tray1:9 Dioxin ALS 10 Tray1:10 EPA1613 ALS Dioxin ALS 11 EPA1613_ALS Tray1:11 Dioxin_ALS Tray1:12 EPA1613 ALS Dioxin ALS 13 Tray1:13 EPA1613 ALS Dioxin ALS 14 Tray1:14 EPA1613 ALS Dioxin ALS 15 Tray1:15 EPA1613 ALS Dioxin ALS EPA1613 ALS 16 Tray1:16 Dioxin_ALS 17 Tray1:17 EPA1613_ALS Dioxin ALS 18 Tray1:18 EPA1613 ALS Dioxin_ALS 19 Tray1:19 EPA1613_ALS Dioxin_ALS 20 Tray1:20 EPA1613_ALS Dioxin_ALS 21 Tray1:21 EPA1613 ALS Dioxin ALS 22 Tray1:22 EPA1613 ALS Dioxin ALS 23 Tray1:23 EPA1613_ALS Dioxin_ALS 24 Tray1:24 EPA1613_ALS Dioxin ALS 25 Tray1:25 EPA1613 ALS Dioxin_ALS 26 Tray1:26 EPA1613_ALS Dioxin ALS 27 Tray1:27 EPA1613 ALS Dioxin ALS 28 Tray1:28 EPA1613_ALS Dioxin ALS 29 Tray1:29 EPA1613_ALS Dioxin ALS 30 Tray1:30 EPA1613 ALS Dioxin ALS 31 Tray1:31 EPA1613 ALS Dioxin ALS 32 Tray1:32 EPA1613 ALS Dioxin ALS Form Updated H lab-sample 33 Tray1:33 EPA1613 ALS Dioxin ALS 34 Tray1:34 EPA1613 ALS Dioxin ALS 35 Tray1:35 EPA1613 ALS Dioxin ALS Tray1:36 EPA1613 ALS 36 Dioxin ALS 37 Tray1:37 EPA1613 ALS Dioxin ALS 38 Tray1:38 EPA1613_ALS Dioxin ALS 39 Tray1:39 EPA1613_ALS Dioxin_ALS

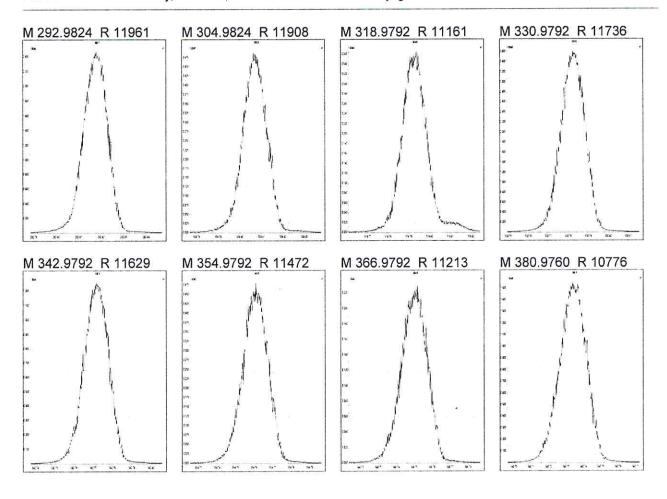
opus 4: P603988 res

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Printed:

Saturday, June 25, 2016 09:11:20 Eastern Daylight Time



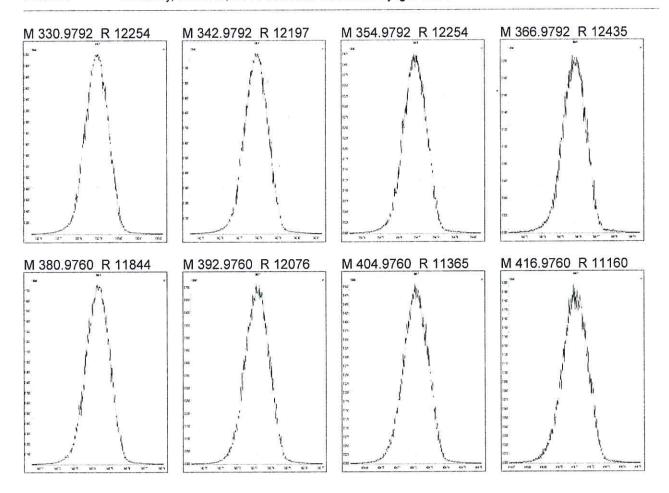
E1600282 105 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:12:33 Eastern Daylight Time



E1600282 106 of 174

Experiment Calibration Report MassLynx 4.1 SCN815 SCN795

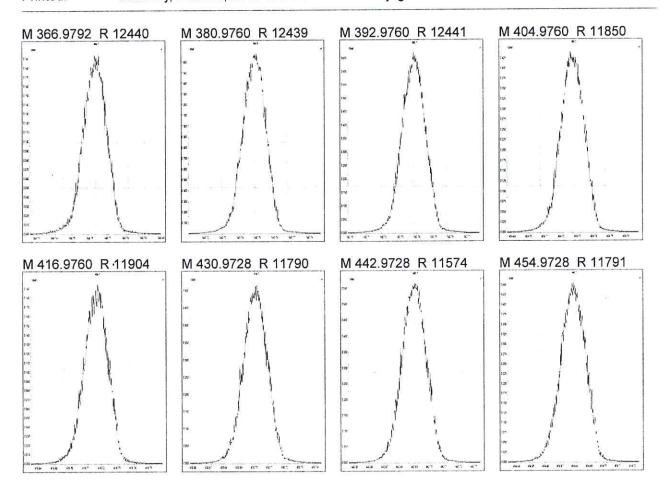
Page 1 of 1

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:13:42 Eastern Daylight Time



E1600282 107 of 174

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

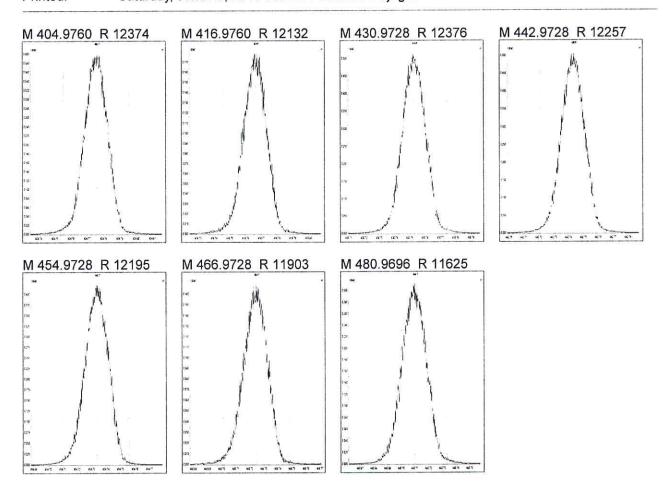
Page 1 of 1

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Printed:

Saturday, June 25, 2016 09:14:56 Eastern Daylight Time



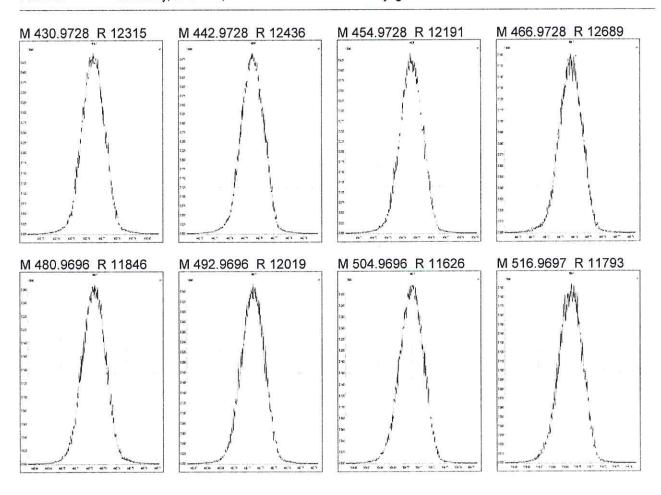
E1600282 108 of 174

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:16:07 Eastern Daylight Time



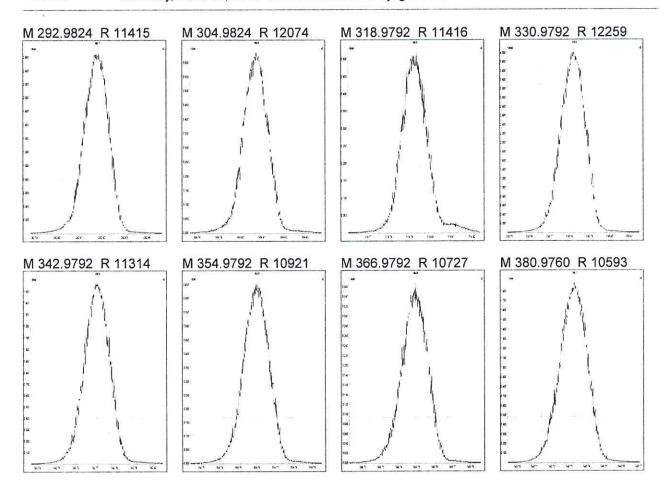
E1600282 109 of 174

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Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time



E1600282

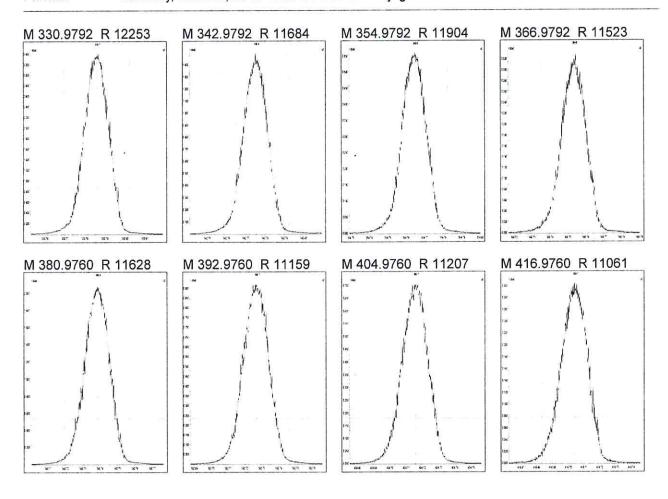
110 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



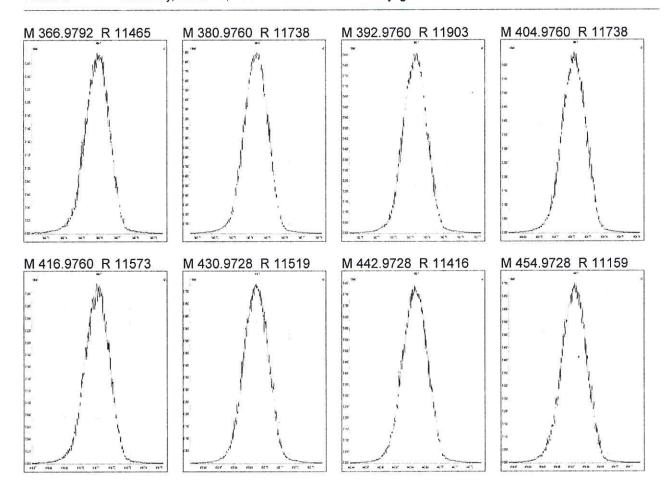
E1600282 111 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



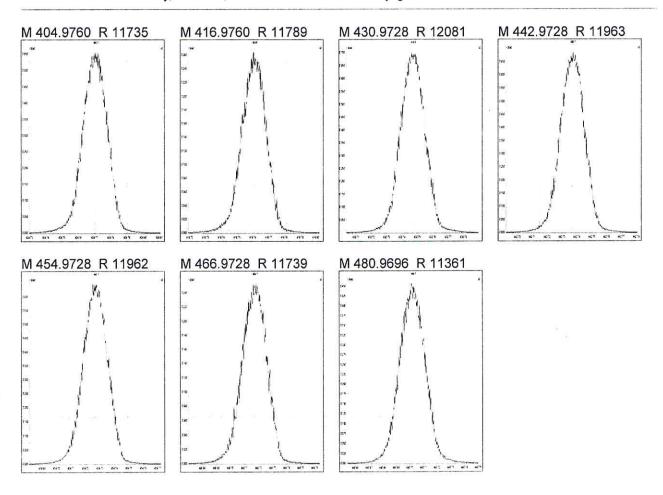
E1600282 112 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:32:13 Eastern Daylight Time



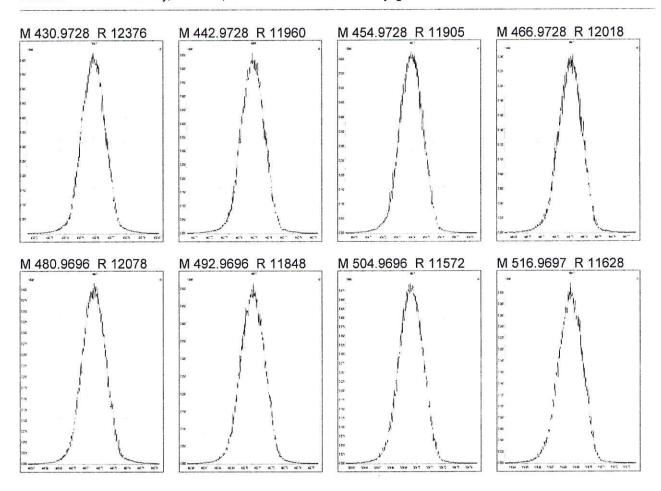
E1600282 113 of 174

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



E1600282 114 of 174

5DFA WINDOW DEFINING MIX SUMMARY

CLIENT ID: WDM

% Valley 2378-TCDD:

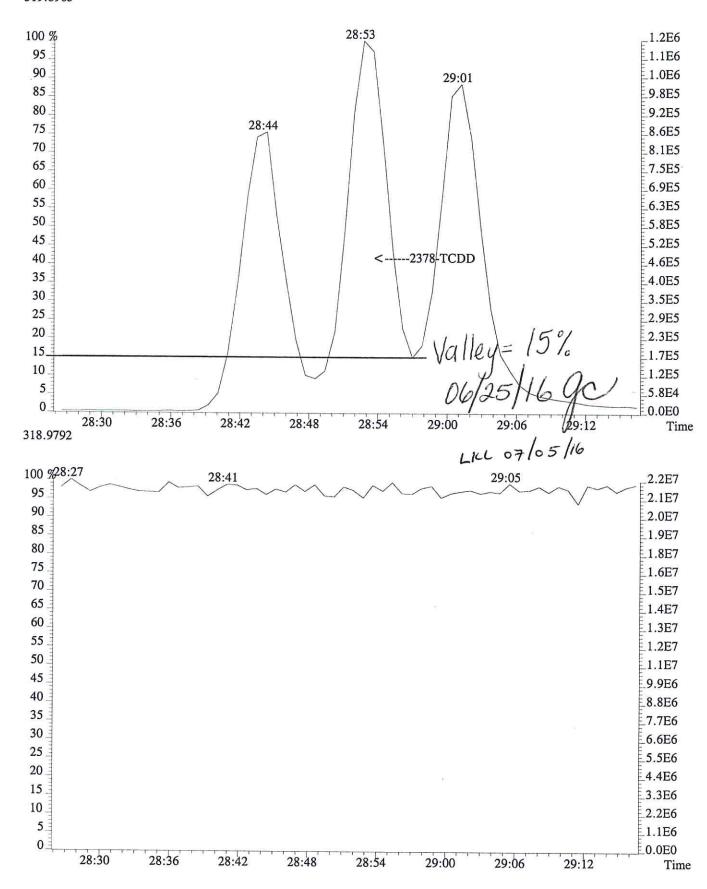
SDG No.:
Lab File ID: P603981 SDG No.:

Date Analyzed: 25-JUN-2016 Time Analyzed: 09:17:10

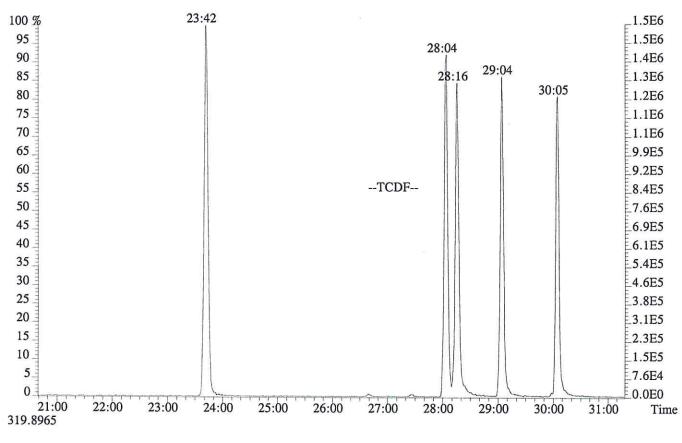
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:42	30:05
TCDD	25:33	29:54
PeCDF	29:58	34:14
PeCDD	31:30	33:58
HxCDF	34:50	37:22
HxCDD	35:22	36:57
HpCDF	38:33	39:58
HpCDD	38:47	39:28

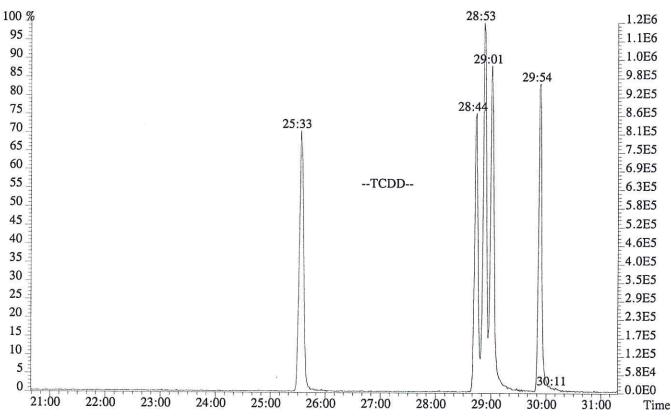
15 %

E1600282 115 of 174

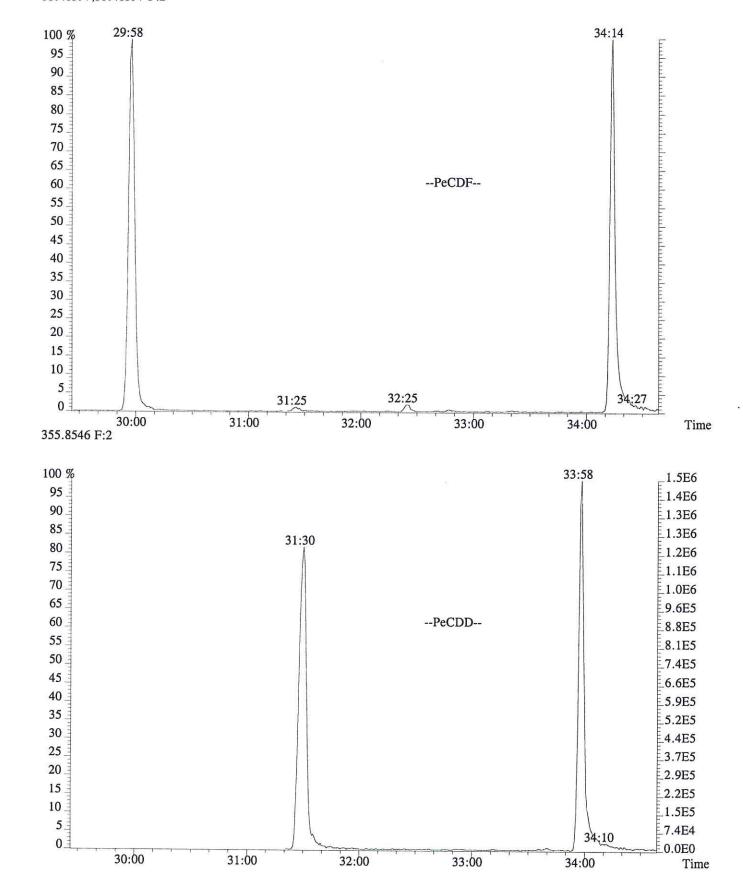


File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016



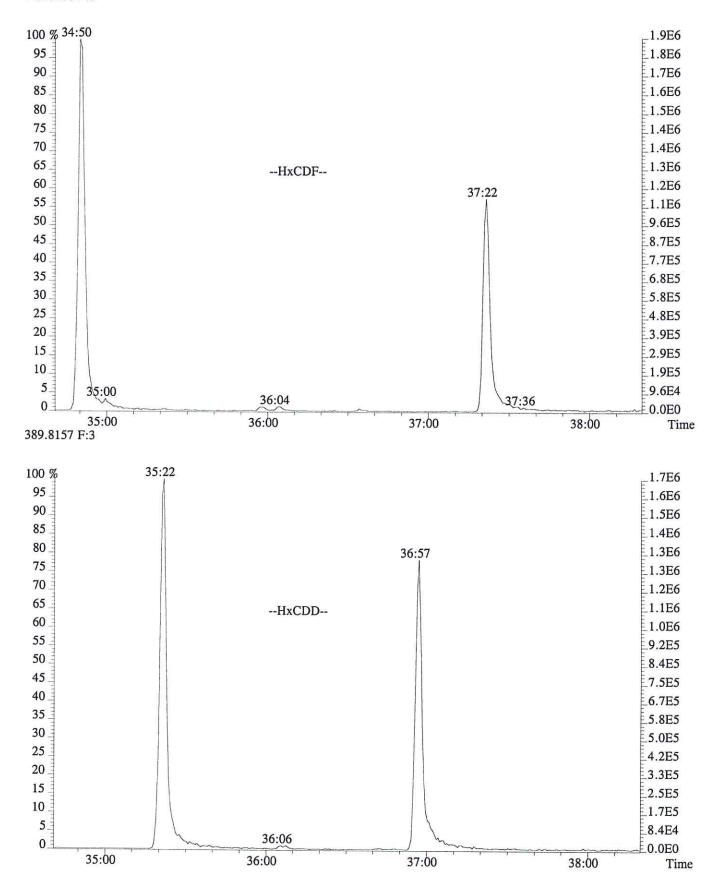


File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



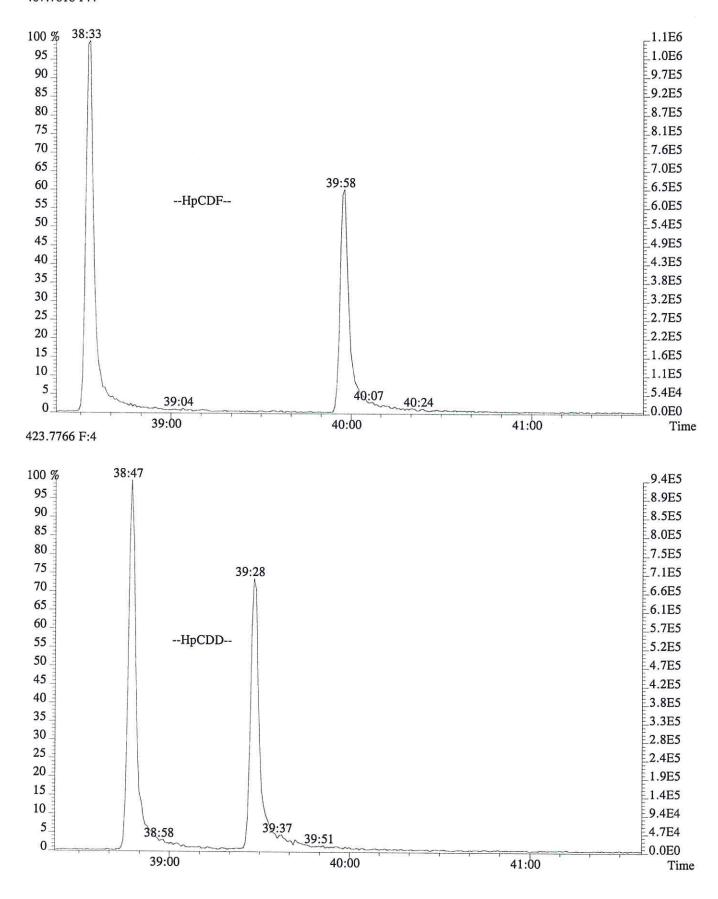
E1600282 118 of 174

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



E1600282 119 of 174

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 407.7818 F:4



E1600282 120 of 174

SPME 5DFA5

CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

TO No.: SDG No.:

Instrument ID: E-HRMS-08

Lab Code: ALSTX Case No.:
GC Column: DB-5MSUI ID: 0.25(mm)
Init. Calib. Date(s).: 06/25/16

Method: SPME

Init. Calib. Time.: 09:17

RR/RRF

							MEAN	
Target Analytes	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	QC LIMITS
2,3,7,8-TCDF	1.16	1.01	1.00	1.02	1.06	1.05	6.57	+/-20%
2,3,7,8-TCDD	0.95	0.91	0.97	0.97	0.98	0.96	2.86	+/-20%
2,3,4,7,8-PeCDF	0.89	0.91	0.93	0.95	0.96	0.93	3.18	+/-20%
13C-1,2,3,4-TCDF	1.31	1.44	1.07	1.32	1.49	1.33	12.37	+/-35%
13C-2,3,7,8-TCDF	1.27	1.24	1.29	1.30	1.31	1.28	1.98	+/-35%
13C-2,3,7,8-TCDD	0.91	0.90	0.94	0.94	0.95	0.93	2.27	+/-35%
13C-1,2,3,7,8-PeCDF	1.36	1.32	1.40	1.39	1.44	1.38	3.44	+/-35%
13C-2,3,4,7,8-PeCDF	1.35	1.32	1.38	1.37	1.43	1.37	2.94	+/-35%
13C-1,2,3,7,8,9-HxCDF	0.87	0.84	0.89	0.87	0.89	0.87	2.35	+/-35%
37C1-2,3,7,8-TCDD	0.88	0.92	0.96	0.96	1.01	0.94	5.24	+/-35%

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^{1.123789-}HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.

^{2.} OCDF RR is calculated based on the labeled analog of OCDD

SPME 6DFB6

CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

Lab Code: ALSTX Case No.:

TO No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25(mm)

Instrument ID: E-HRMS-08

Init. Calib. Date(s).: 06/25/16

Method SPME

Init. Calib. Time.: 09:17

ION ABUNDANCE RATIO

		-						
	SELECTED	700						ION RATIO
Target Analytes	IONS	C1	CS2	CS3	CS4	CS5	FLAG	QC lIMITS
2,3,7,8-TCDF	304/306	0.66	0.82	0.77	0.77	0.77		0.65-0.89
2,3,7,8-TCDD	320/322	0.68	0.79	0.78	0.79	0.78		0.65-0.89
2,3,4,7,8-PeCDF	340/342	1.56	1.53	1.55	1.56	1.55		1.32-1.78
13C-1,2,3,4-TCDF	316/318	0.80	0.80	0.80	0.79	0.80		0.65-0.89
13C-2,3,7,8-TCDF	316/318	0.82	0.80	0.80	0.80	0.80		0.65-0.89
13C-2,3,7,8-TCDD	332/334	0.78	0.77	0.78	0.78	0.78		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.63	1.60	1.60	1.60	1.61		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.62	1.60	1.60	1.61	1.58		1.32-1.78
13C-1,2,3,7,8,9-HxCDF	384/386	0.51	0.52	0.51	0.52	0.51		0.43-0.59
13C-1,2,3,4-TCDD	332/334	0.79	0.79	0.79	0.79	0.79		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.25	1.29	1.24	1.24	1.25		1.05-1.43

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

FORM VI-HR CDD-2

E1600282 122 of 174

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173636

Filename P603982 Run #1 Samp: 1 Inj: 1 Acquired: 25-JUN-16 10:06:18 Processed: 25-JUN-16 11:04:04 Sample ID: CS1 Name RT-1 Typ Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:14 1.659e+02 0.66 yes 2.502e+02 0.957 yes 3 Unk 2,3,4,7,8-PeCDF | 33:19 1.262e+03 8.112e+02 1.56 yes no 0.929 11 Unk 2,3,7,8-TCDD 29:00 1.471e+02 2.158e+02 0.68 yes no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:13 3.924e+04 4.815e+04 0.82 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 5.787e+04 3.555e+04 1.63 yes no 1.381 13C-2,3,4,7,8-PeCDF | 33:18 20 IS 1.62|yes 5.732e+04 3.540e+04 no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:19 1.788e+04 3.501e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF | 26:58 4.003e+04 4.991e+04 0.80|yes yes 1.325 27 IS 13C-2,3,7,8-TCDD 28:59 2.727e+04 3.509e+040.78 yes no 0.929 33 RS/RT 13C-1,2,3,4-TCDD 28:23 3.030e+04 3.842e+04 0.79 yes no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 3.373e+04 2.692e+04 1.25 yes no 35 C/Up 37Cl-2,3,7,8-TCDD 29:00 3.012e+02 no 0.945

E1600282 123 of 174

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID

Run Prod	#1 Filename P603982 cessed: 25-JUN-16 11:04			nj: 1 D: CS1	Acquired:	25-JUN-16	10:06:18
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/ S/N Rat.2
1	2,3,7,8-TCDF	2.89e+04	1.68e+03	1.7e+01	4.53e+04	4.50e+03	1.0e+01
3	2,3,4,7,8-PeCDF	2.34e+05	1.24e+03	1.9e+02	1.53e+05	1.94e+03	7.9e+01
11	2,3,7,8-TCDD	2.46e+04	1.07e+03	2.3e+01	3.66e+04	1.37e+03	2.7e+01
18	13C-2,3,7,8-TCDF	6.69e+06	6.48e+03	1.0e+03	8.21e+06	3.58e+03	2.3e+03
19	13C-1,2,3,7,8-PeCDF	9.80e+06	1.39e+03	7.1e+03	6.08e+06	1.25e+04	4.8e+02
20	13C-2,3,4,7,8-PeCDF	1.05e+07	1.39e+03	7.6e+03	6.48e+06	1.25e+04	5.2e+02
	13C-1,2,3,7,8,9-HxCDF	3.21e+06	1.12e+03	2.9e+03	6.25e+06	1.78e+03	3.5e+03
26	13C-1,2,3,4-TCDF	6.44e+06	6.48e+03	9.9e+02	8.07e+06	3.58e+03	2.3e+03
27	13C-2.3.7.8-TCDD	4 876+06	9 760,031	5 00,021	6 170:061	4 640.021	1 20.02
			,	the task account to			
		The state of the s			v 3.75 - 3 3.5	Tell of M. Wildelymperine	
35	The state of the s				4.050+06	1.556+03	3.0e+03
24 26 27 33 34	13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF 13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	3.21e+06	1.12e+03	2.9e+03	6.25e+06	1.78e+03	3.5e+03

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

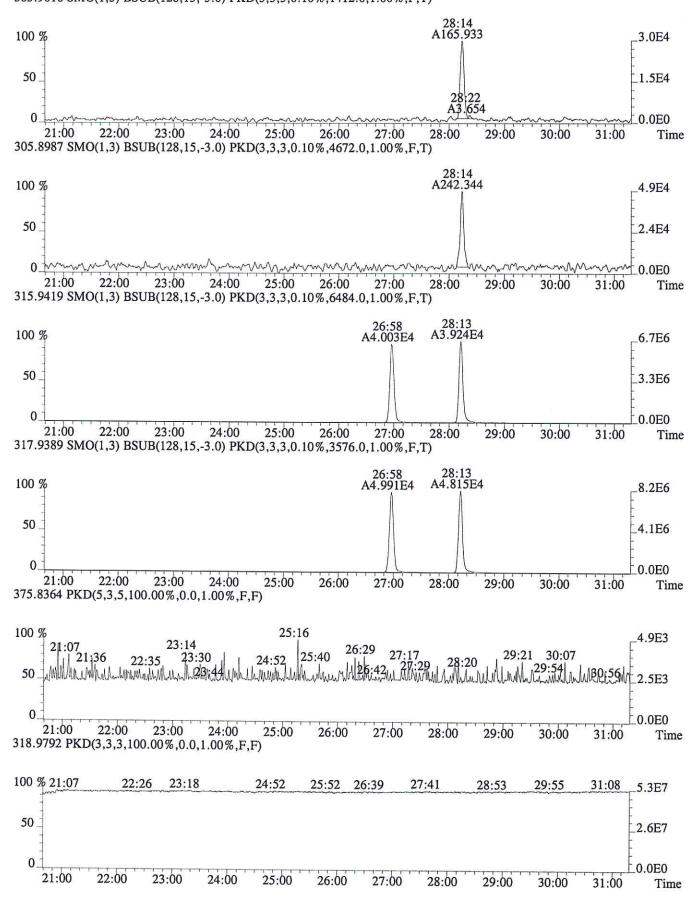
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

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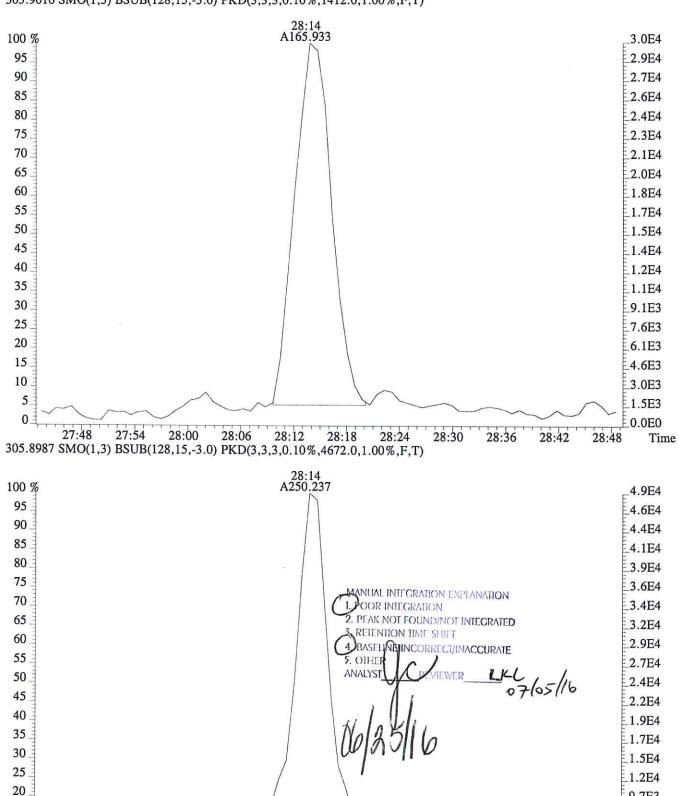
E1600282 124 of 174

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



E1600282 125 of 174

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMÔ(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



15

10

5

0

27:48

27:54

28:00

28:06

28:18

28:24

28:30

28:36

28:42

28:12

9.7E3

7.3E3

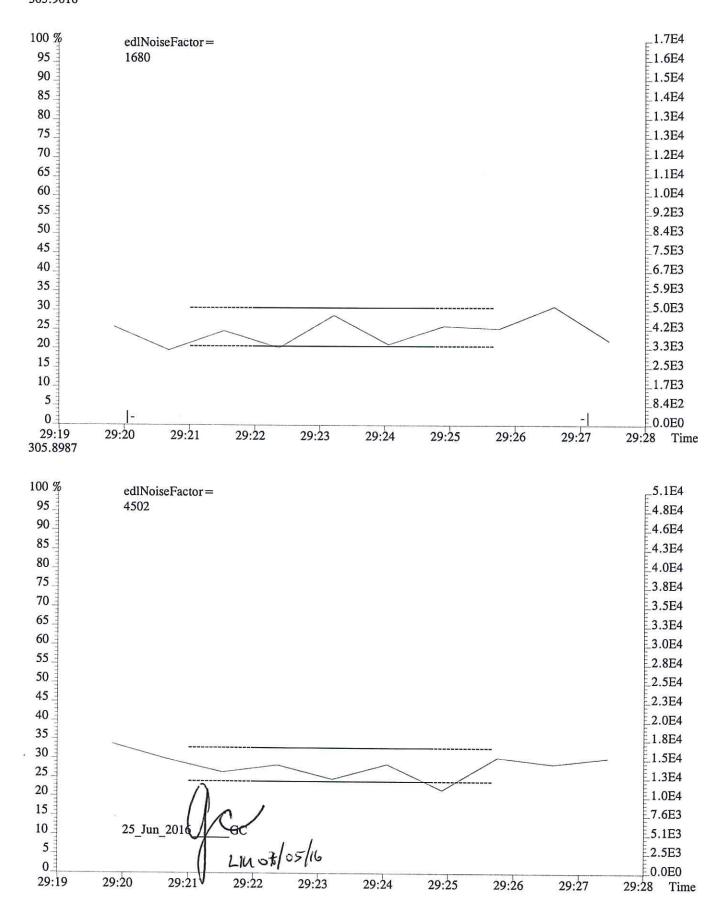
4.9E3

2.4E3

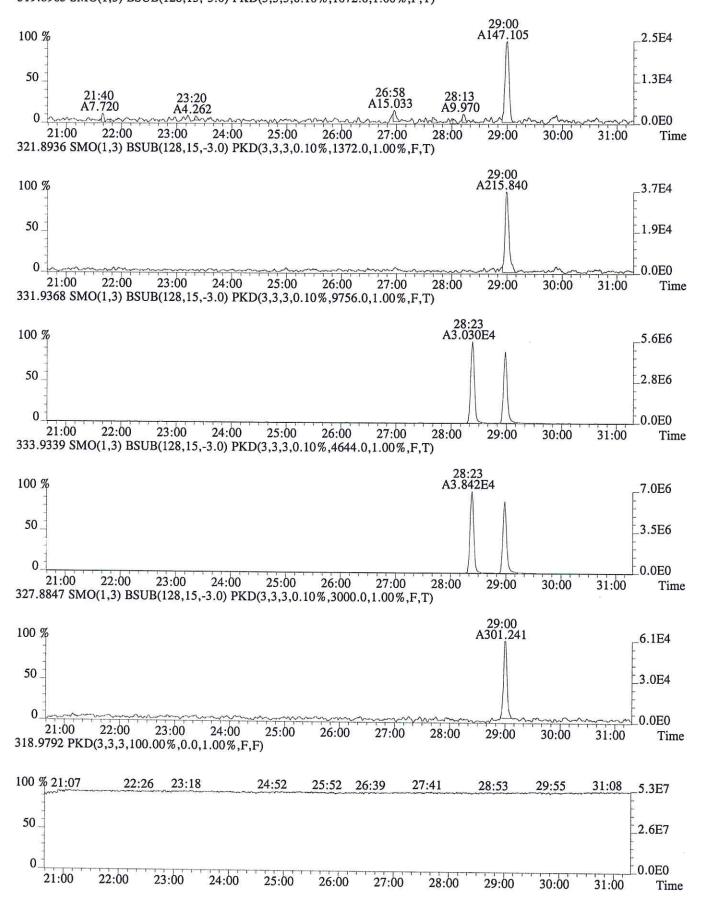
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Time

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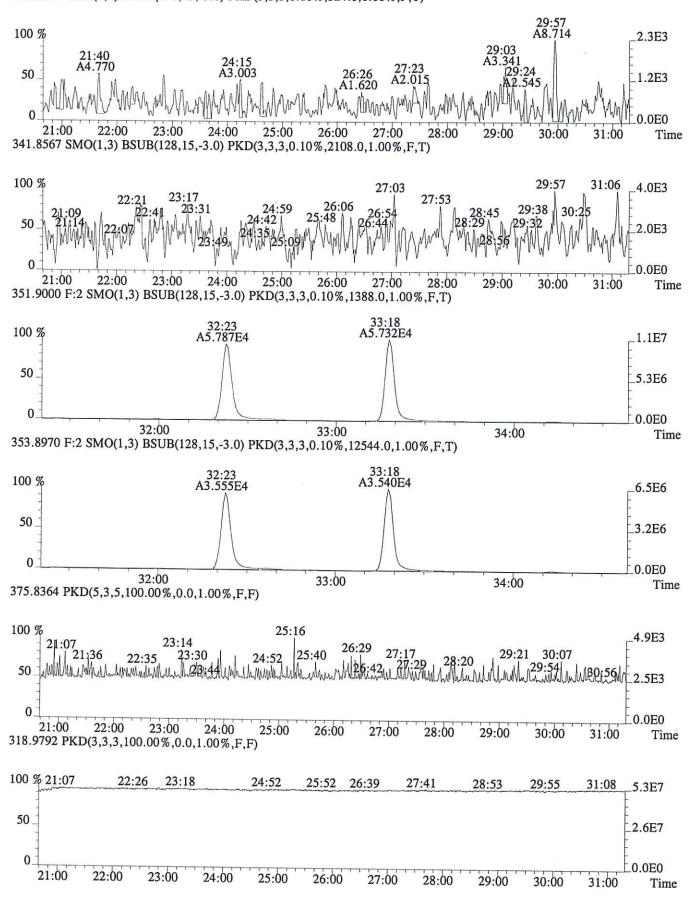


File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,T)

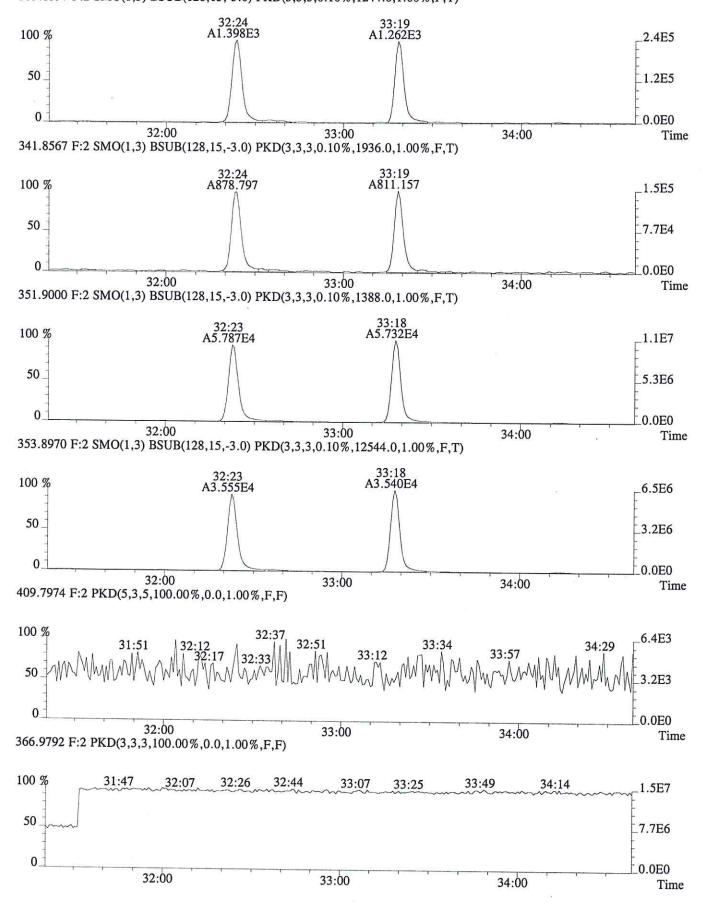


E1600282 128 of 174

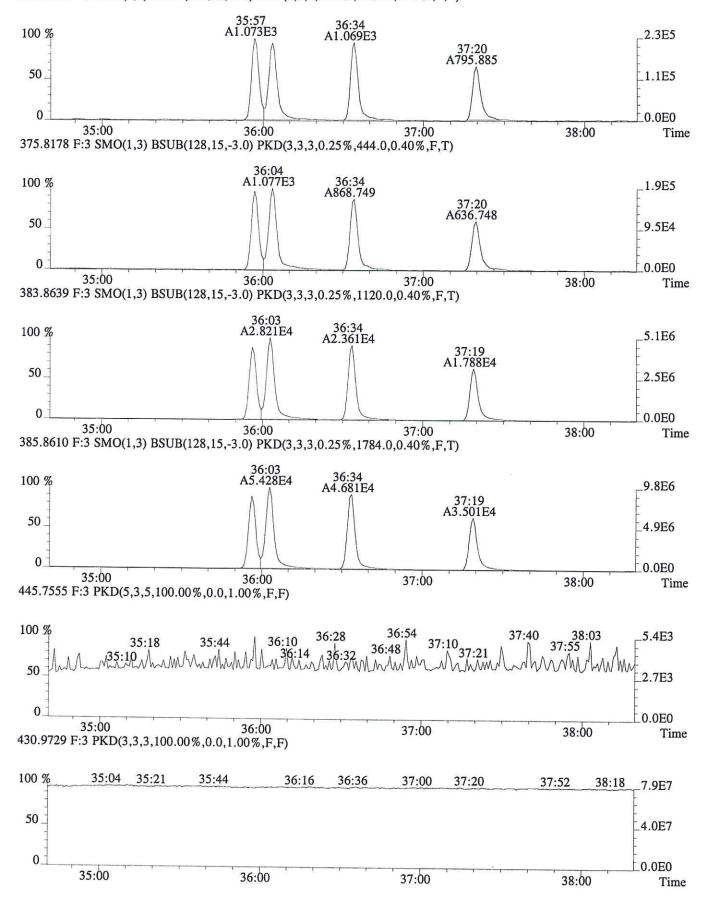
File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



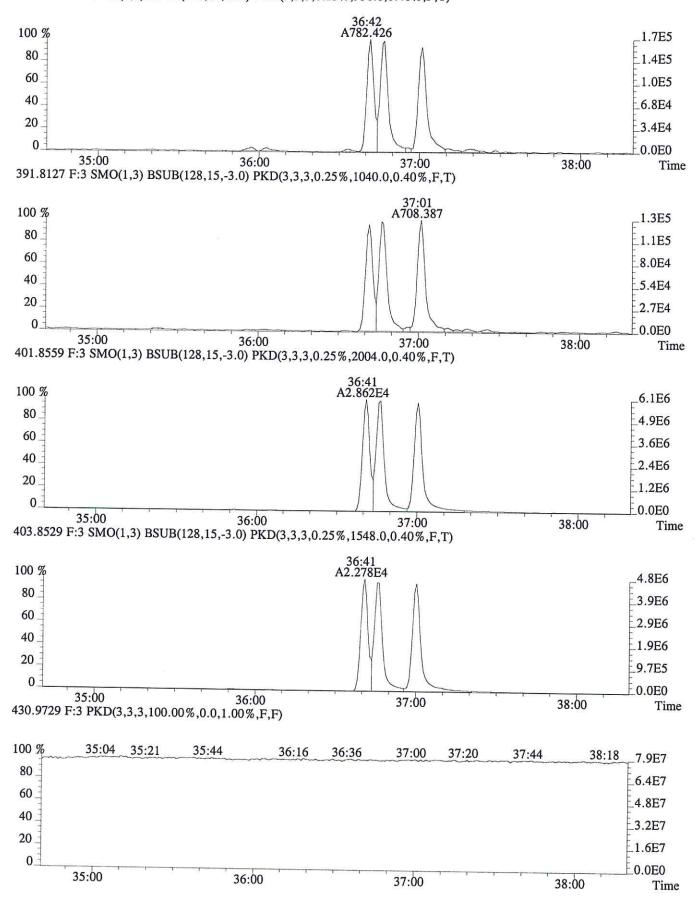
File:P603982 #1-298 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173637

Run #2 Processed	Filename P603983 : 25-JUN-16 13:05:01	Samp: 1 Sam	Inj: 1 ple ID: CS2	Acquired:	25-JUN-16 1	1:09:26	
Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:16	6.799e+02	8.314e+02	0.82 yes	lno	0.957
3 Unk	2,3,4,7,8-PeCDF	33:19	4.821e+03	3.158e+03	1.53 yes	no	0.929
11 Unk	2,3,7,8-TCDD	29:01	5.343e+02	6.795e+02	0.79 yes	no	1.048
18 IS	13C-2,3,7,8-TCDF	28:14	3.694e+04	4.596e+04	0.80 yes	no	1.283
19 IS	13C-1,2,3,7,8-PeCDF	32:23	5.402e+04	3.368e+04	1.60 yes	no	1.381
20 IS	13C-2,3,4,7,8-PeCDF	I I	5.416e+04	3.394e+04	1.60 yes	no	1.371
24 IS	13C-1,2,3,7,8,9-HxCDF	37:20	1.659e+04	3.192e+04	0.52 yes	no	0.875
26 IS	13C-1,2,3,4-TCDF	26:59	4.274e+04	5.355e+04	0.80 yes	yes	1.325
27 IS	13C-2,3,7,8-TCDD	29:00	2.625e+04	3.404e+04	0.77 yes	no	0.929
33 RS/RT	13C-1,2,3,4-TCDD	28:24	2.934e+04	3.730e+04	0.79 yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:01	3.239e+04	2.513e+04	1.29 yes	no	j -
35 C/Up	37C1-2,3,7,8-TCDD	29:00	1.225e+03			no	0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

E1600282 133 of 174

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID

Run #2 Filename P603983 Samp: 1 Inj: 1 Acquired: 25-JUN-16 11:09:26

Processed:	25-JUN-16	13:05:01	LAB.	ID:	CS2
------------	-----------	----------	------	-----	-----

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	1.17e+05	1.48e+03	7.9e+01	1.52e+05	4.36e+03	3.5e+01
3	2,3,4,7,8-PeCDF	8.88e+05	2.05e+03	4.3e+02	5.85e+05	3.36e+03	1.7e+02
11	2,3,7,8-TCDD	9.48e+04	1.46e+03	6.5e+01	1.18e+05	1.44e+03	8.2e+01
18	13C-2,3,7,8-TCDF	6.40e+06	6.69e+03	9.6e+02	7.94e+06	4.12e+03	1.9e+03
19	13C-1,2,3,7,8-PeCDF	9.08e+06	1.90e+04	4.8e+02	5.70e+06	9.55e+03	6.0e+02
20	13C-2,3,4,7,8-PeCDF	9.94e+06	1.90e+04	5.2e+02	6.21e+06	9.55e+03	6.5e+02
24	13C-1,2,3,7,8,9-HxCDF	2.98e+06	1.04e+03	2.9e+03	5.77e+06	2.19e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.93e+06	6.69e+03	1.0e+03	8.59e+06	4.12e+03	2.1e+03
27	13C-2,3,7,8-TCDD	4.74e+06	9.28e+03	5.1e+02	6.17e+06	3.62e+03	1.7e+03
33	13C-1,2,3,4-TCDD	5.42e+06	9.28e+03	5.8e+02	6.85e+06	3.62e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	5.54e+06	2.31e+03	2.4e+03	4.38e+06	1.60e+03	2.7e+03
35	37C1-2,3,7,8-TCDD	2.19e+05	2.42e+03	9.0e+01			

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

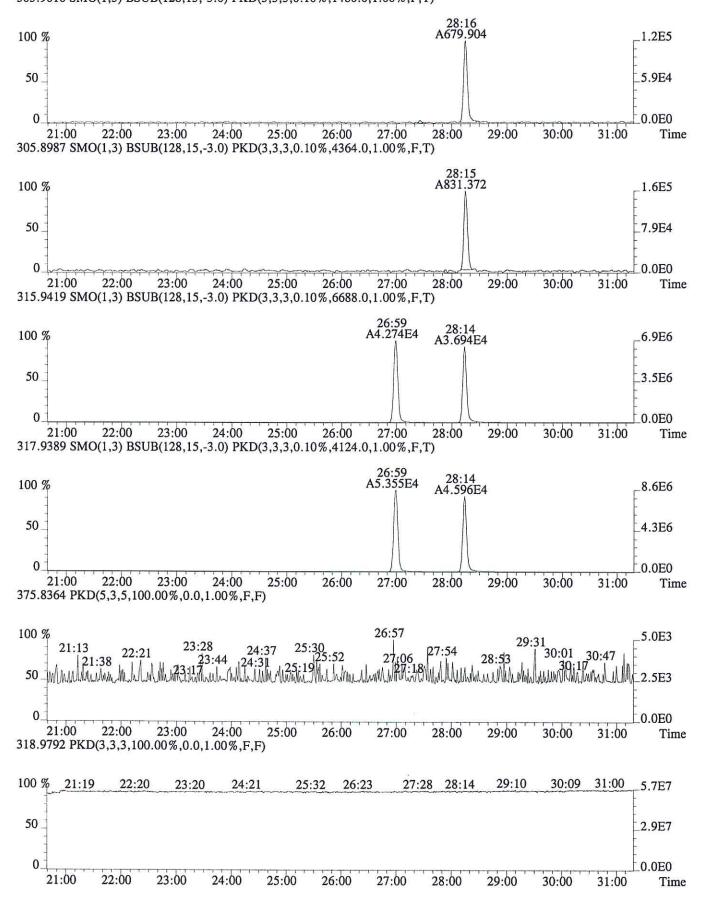
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

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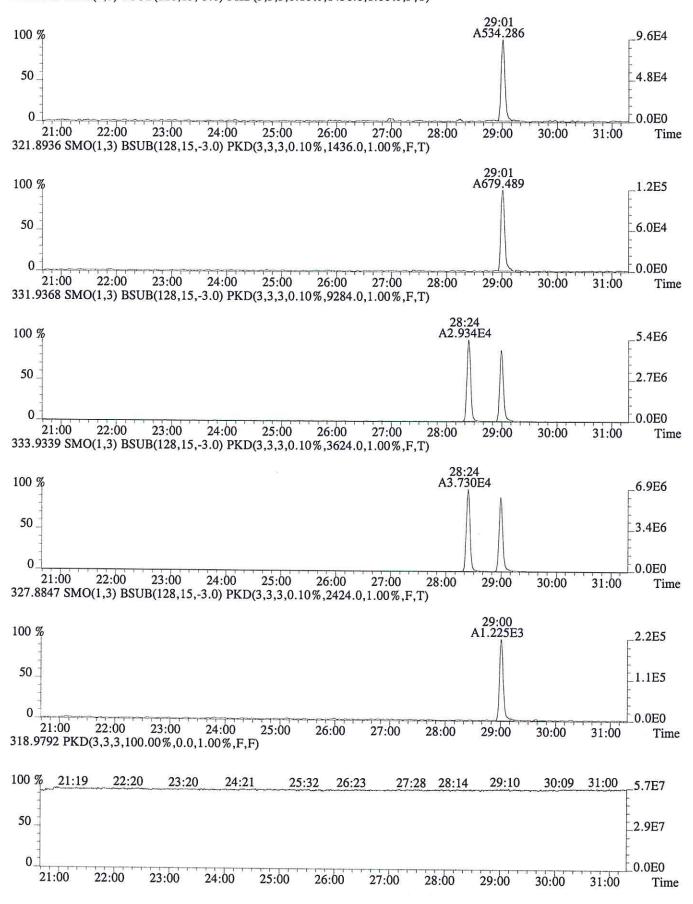
E1600282 134 of 174

File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1480.0,1.00%,F,T)



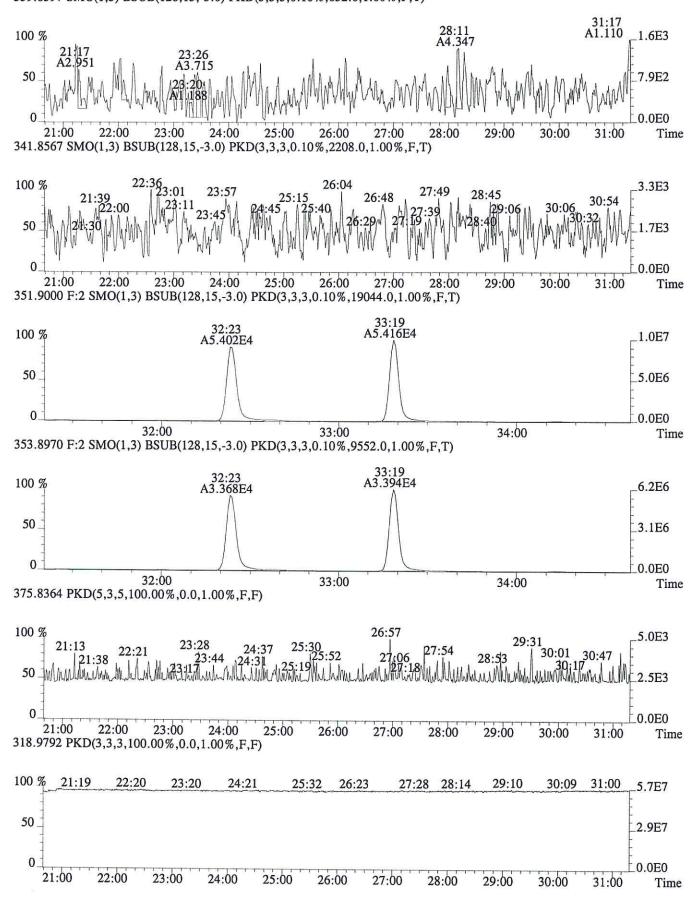
E1600282 135 of 174

File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)

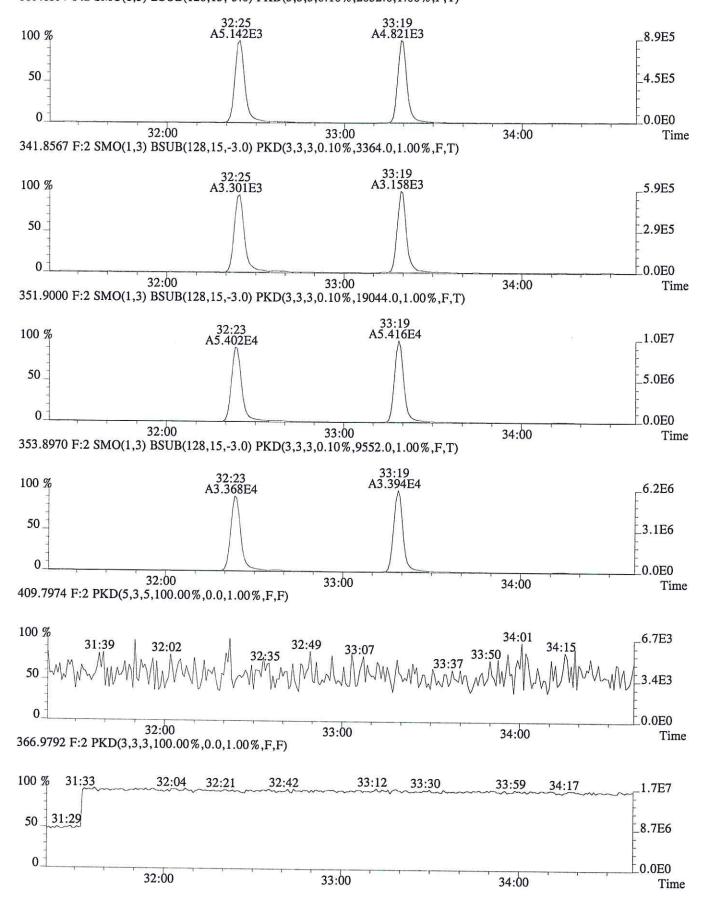


E1600282 136 of 174

File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)

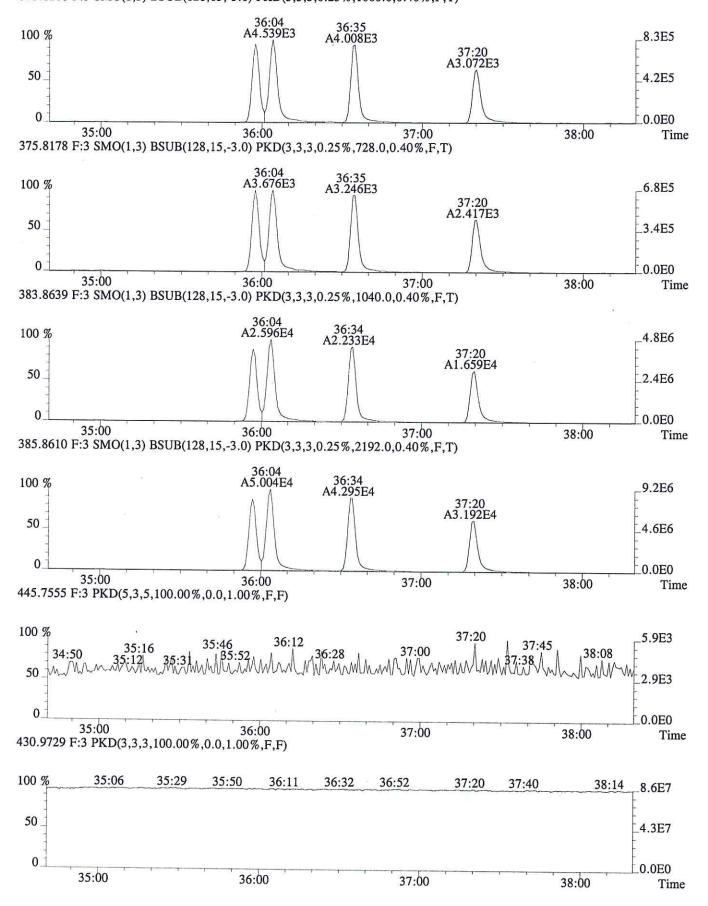


File:P603983 #1-298 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2052.0,1.00%,F,T)

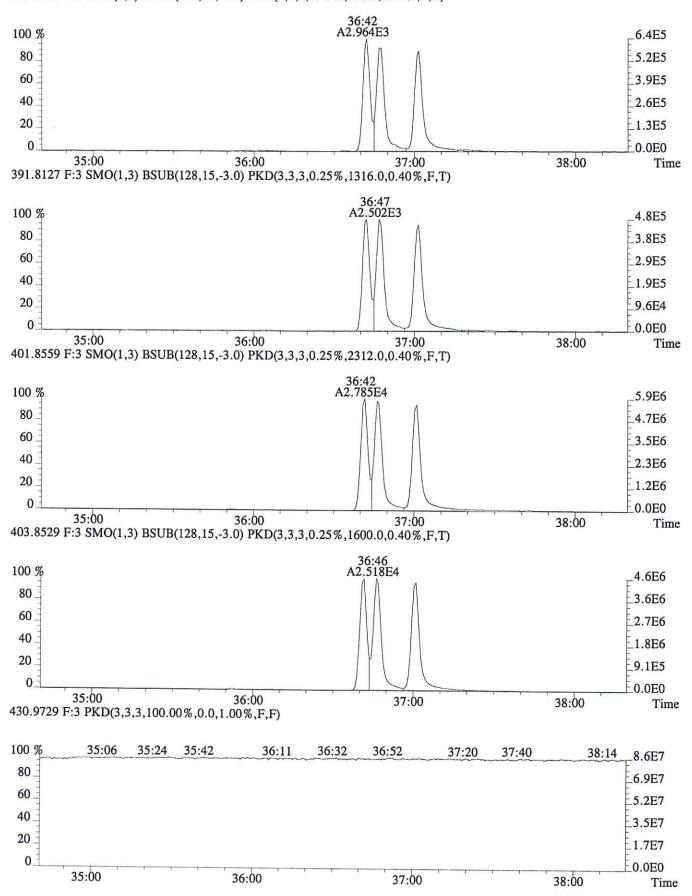


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File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



CLIENT ID. 173638

Run #3 Filename P603984 Samp: 1 Inj: 1 Acquired: 25-JUN-16 11:55:54 Processed: 25-JUN-16 13:05:01 Sample ID: CS3 Name RT-1 Typ Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF 28:14 0.77 yes 6.879e+03 8.895e+03 0.957 no 3 Unk 2,3,4,7,8-PeCDF | 33:19 4.946e+04 3.185e+04 1.55 yes 0.929 11 Unk 2,3,7,8-TCDD 29:00 5.200e+03 6.636e+03 0.78 yes no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:13 7.245e+049.072e+04 0.80 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF 32:23 1.083e+05 6.772e+04 1.60 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:18 1.074e+05 6.710e+04 1.60 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF 37:19 3.456e+04 6.770e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF 26:58 5.981e+04 7.456e+04 0.80 yes yes 1.325 27 IS 13C-2,3,7,8-TCDD 28:59 5.212e+04 6.669e+04 0.78 yes no 0.929 33 RS/RT 13C-1,2,3,4-TCDD 28:23 5.576e+04 7.031e+04 0.79 yes no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 6.329e+04 5.113e+04 1.24 yes no 35 C/Up 37Cl-2,3,7,8-TCDD 29:00 1.213e+04 0.945 no

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ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173638

Run #3 Acquired: 25-JUN-16 11:55:54 Filename P603984 Samp: 1 Inj: 1 Processed: 25-JUN-16 13:05:01 LAB. ID: CS3 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF | 1.22e+06 | 1.06e+03 | 1.2e+03 | 1.59e+06 | 4.41e+03 | 3.6e+02 3 2,3,4,7,8-PeCDF| 9.20e+06| 1.30e+04| 7.1e+02| 6.00e+06| 9.93e+03| 6.0e+02 11 2,3,7,8-TCDD | 9.42e+05 | 1.36e+03 | 6.9e+02 | 1.22e+06 1.25e+03 9.7e + 0218 13C-2,3,7,8-TCDF | 1.28e+07 | 4.69e+03 | 2.7e+03 | 1.60e+07 | 3.17e+03 | 5.0e+03 13C-1,2,3,7,8-PeCDF | 1.89e+07 | 2.06e+04 | 9.2e+02 | 1.20e+07 | 1.57e+04 | 7.6e+02 19 20 13C-2,3,4,7,8-PeCDF | 2.04e+07 | 2.06e+04 | 9.9e+02 | 1.28e+07 | 1.57e+04 | 8.2e+02

24	13C-1,2,3,7,8,9-HxCDF	6.60e+06	2.15e+03	3.1e+03	1.28e+07	2.19e+03	5.8e+03
26	13C-1,2,3,4-TCDF	9.83e+06	4.69e+03	2.1e+03	1.24e+07	3.17e+03	3.9e+03
27 33 34 35	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	1.05e+07 1.20e+07	9.05e+03 1.94e+03	1.2e+03 6.2e+03	1.32e+07	4.67e+03	2.8e+03

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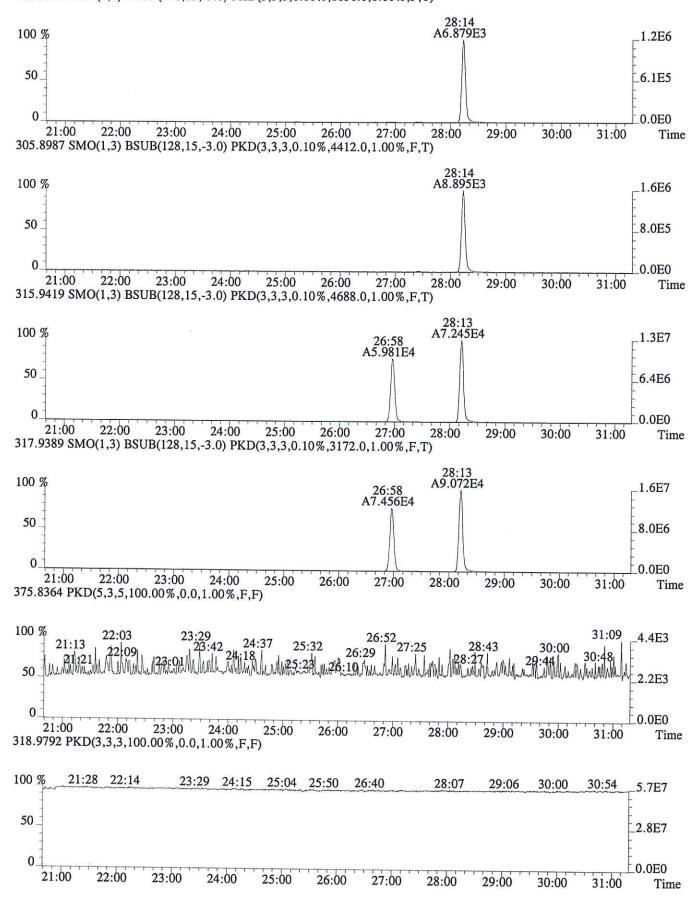
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

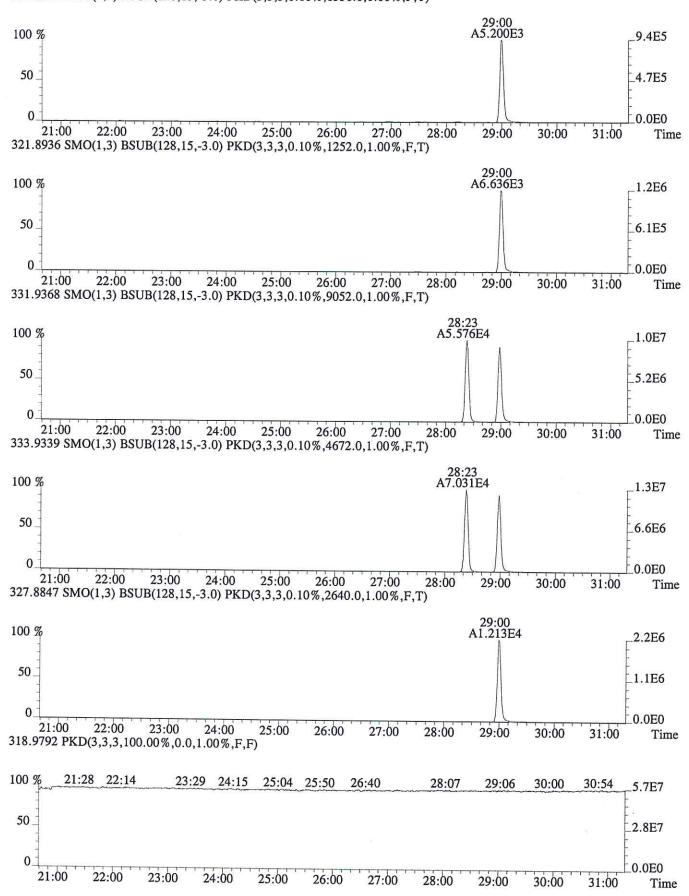
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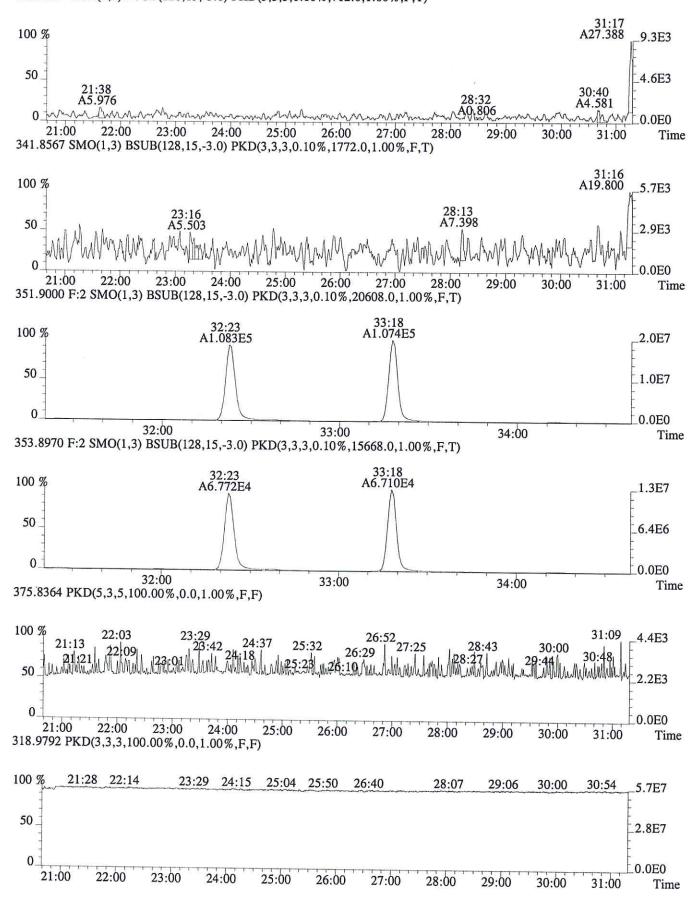
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)



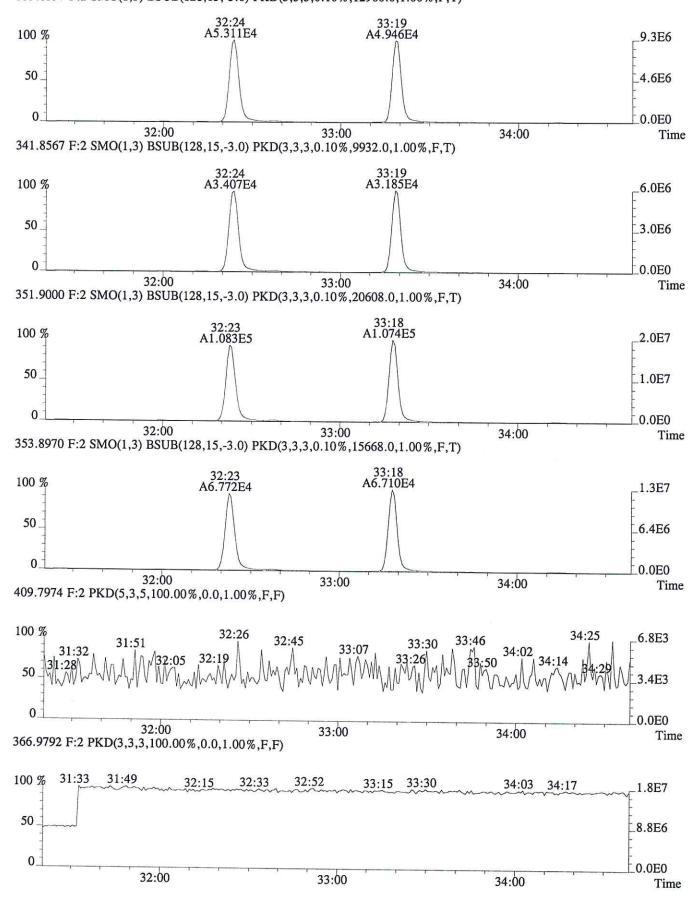
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



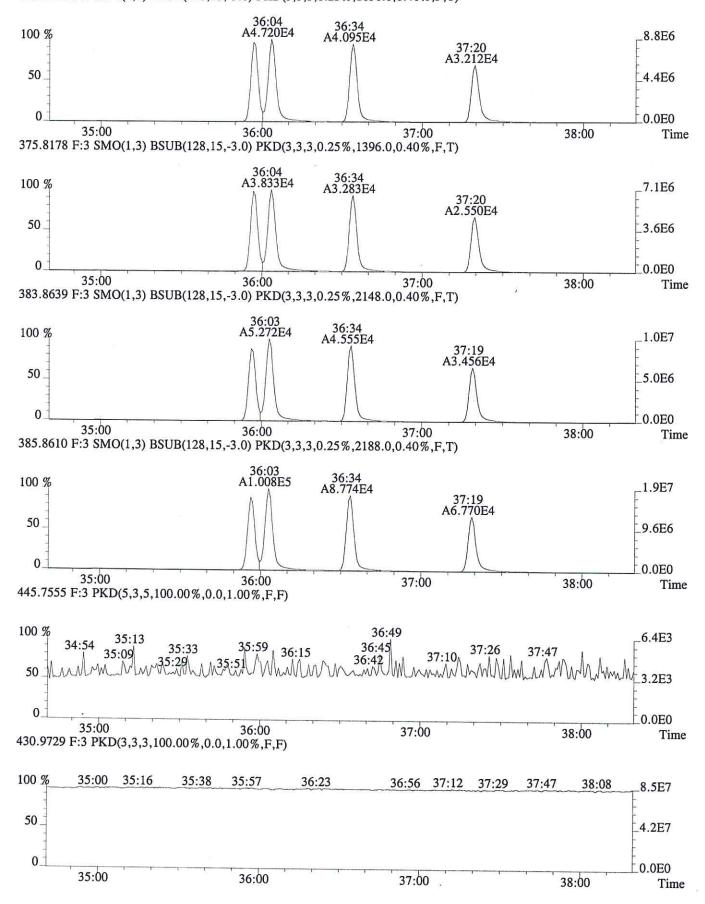
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



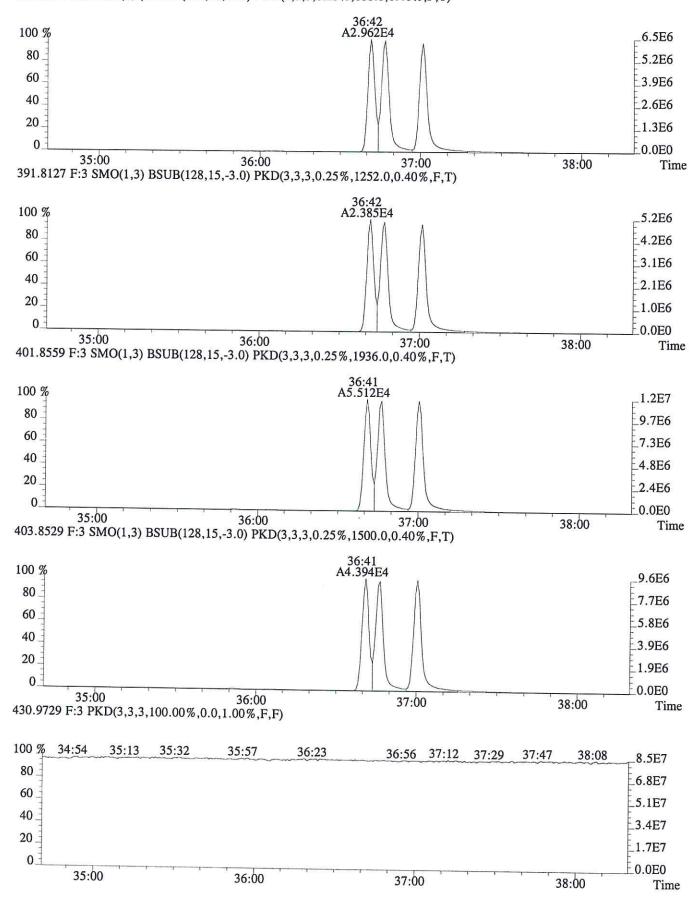
File:P603984 #1-298 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12960.0,1.00%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



CLIENT ID. 173639

Run #4 Filename P603985 Samp: 1 Acquired: 25-JUN-16 12:52:51 Inj: 1 Processed: 25-JUN-16 15:59:58 Sample ID: CS4 Тур Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:15 1.595e+04 2.078e+04 0.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 1.157e+05 7.439e+041.56 yes 0.929 no 11 Unk 2,3,7,8-TCDD | 29:00 1.221e+04 0.79 yes 1.554e+04 no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:14 4.217e+04 5.242e+04 0.80 yes 1.283 no 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 6.222e+04 3.890e+04 1.60 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:19 6.169e+04 3.829e+04 1.61 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:19 0.52 yes 2.000e+04 3.842e+04 0.875 no 26 IS 13C-1,2,3,4-TCDF 26:59 4.265e+04 5.368e+04 0.79 yes 1.325 yes 27 IS 13C-2,3,7,8-TCDD 29:00 3.003e+04 3.830e + 040.78 yes 0.929 no 33 RS/RT 13C-1,2,3,4-TCDD 28:24 3.211e+04 4.076e+04 0.79 yes no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 3.705e+04 2.987e+04 1.24 yes no 35 C/Up 37C1-2,3,7,8-TCDD 29:00 2.794e+04 no 0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173639

Run #4 Filename P603985 Samp: 1 Inj: 1 Acquired: 25-JUN-16 12:52:51

Processed: 25-JUN-16 15:59:58 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF 2,3,4,7,8-PeCDF	2.81e+06 2.21e+07	1.30e+03 2.52e+04	2.2e+03 8.8e+02	3.64e+06 1.43e+07	4.14e+03 2.29e+04	8.8e+02 6.2e+02
11	2,3,7,8-TCDD	2.23e+06	1.02e+03	2.2e+03	2.90e+06	1.31e+03	2.2e+03
18	13C-2,3,7,8-TCDF	7.32e+06	6.01e+03	1.2e+03	9.03e+06	4.38e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	1.09e+07	1.48e+04	7.4e+02	6.85e+06	8.31e+03	8.2e+02
20	13C-2,3,4,7,8-PeCDF	1.18e+07	1.48e+04	8.0e+02	7.28e+06	8.31e+03	8.8e+02
24	13C-1,2,3,7,8,9-HxCDF	3.79e+06	8.16e+02	4.6e+03	7.39e+06	2.79e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.97e+06	6.01e+03	1.2e+03	8.78e+06	4.38e+03	2.0e+03
27	13C-2,3,7,8-TCDD	5.43e+06	9.69e+03	5.6e+02	6.86e+06	4.18e+03	1.6e+03
33	13C-1,2,3,4-TCDD	5.94e+06	9.69e+03	6.1e+02	7.48e+06	4.18e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	6.80e+06	2.05e+03	3.3e+03	5.47e+06	2.34e+03	2.3e+03
35	37C1-2,3,7,8-TCDD	5.21e+06	2.06e+03	2.5e+03			

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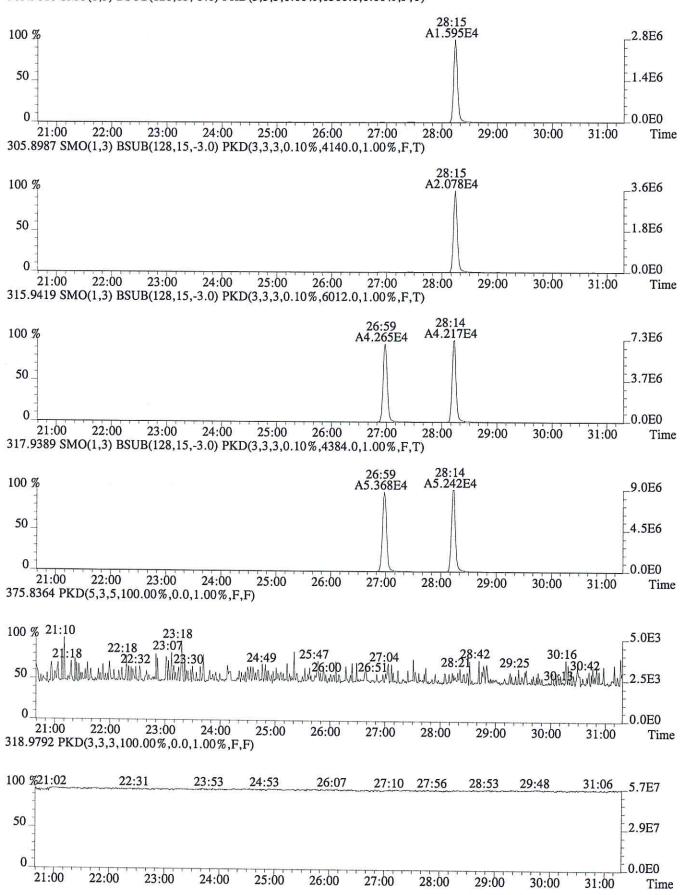
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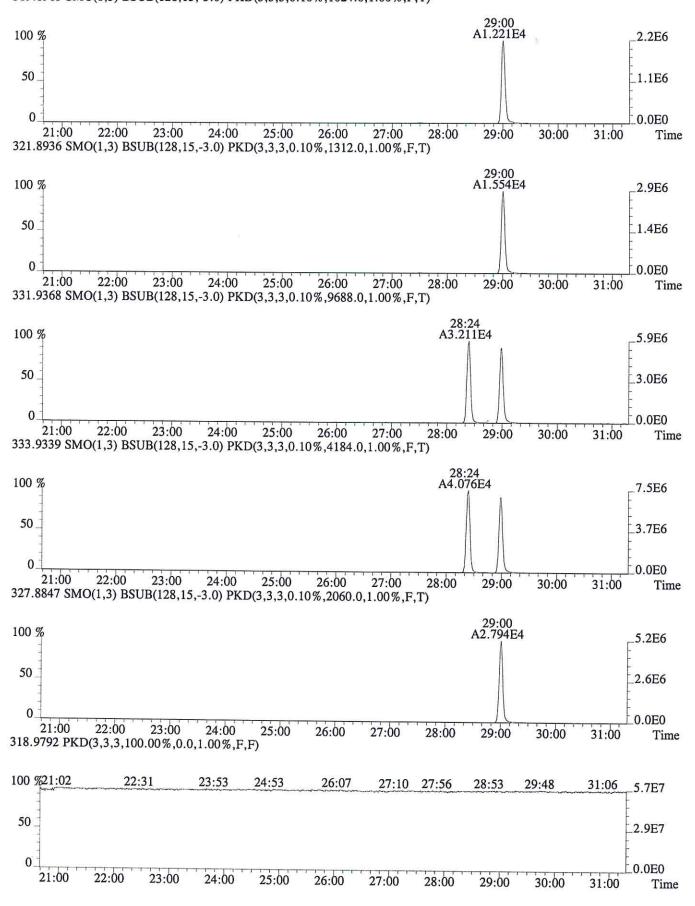
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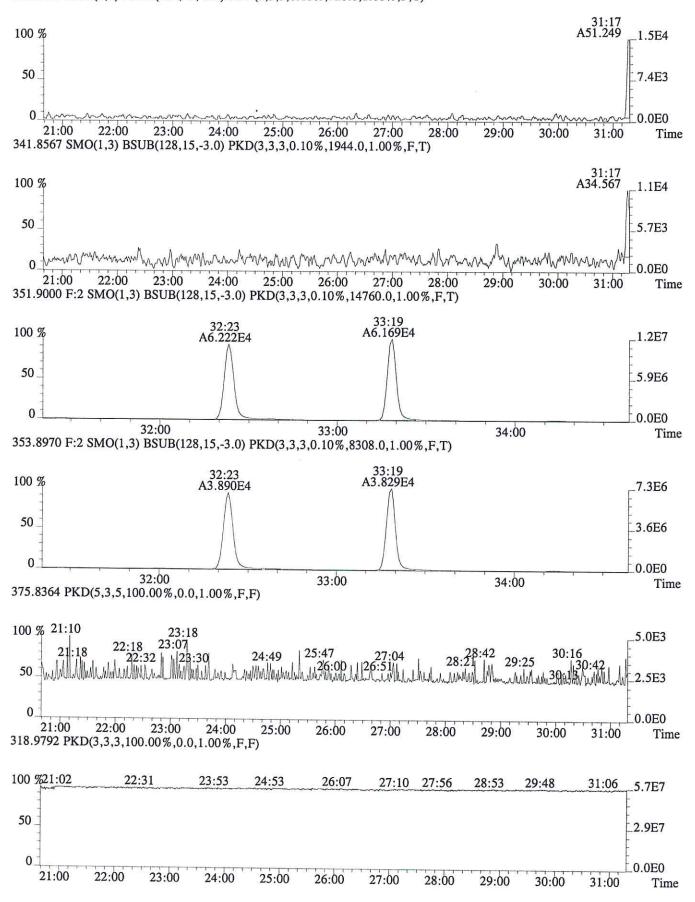
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



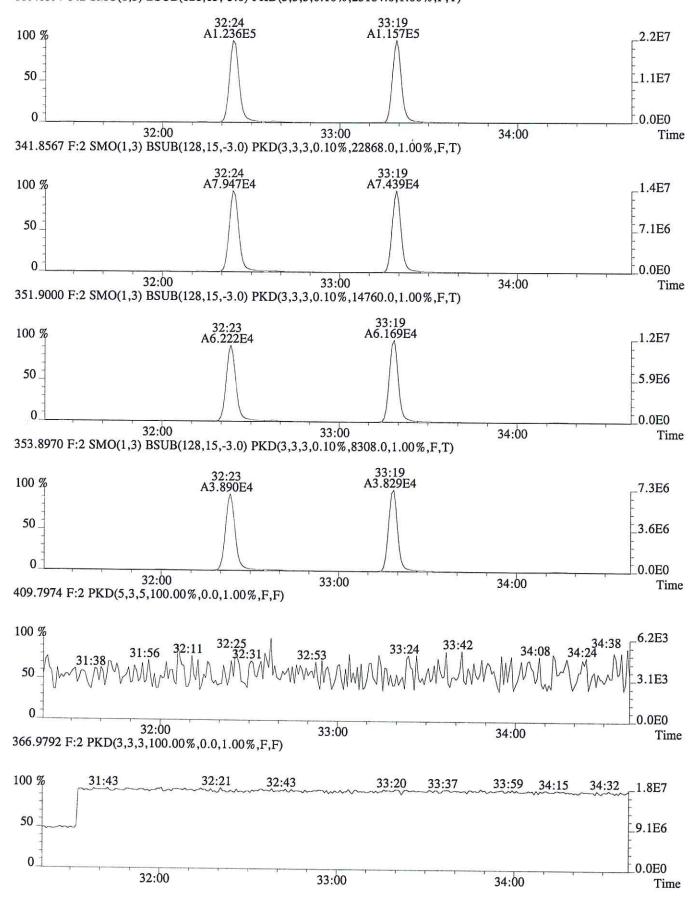
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



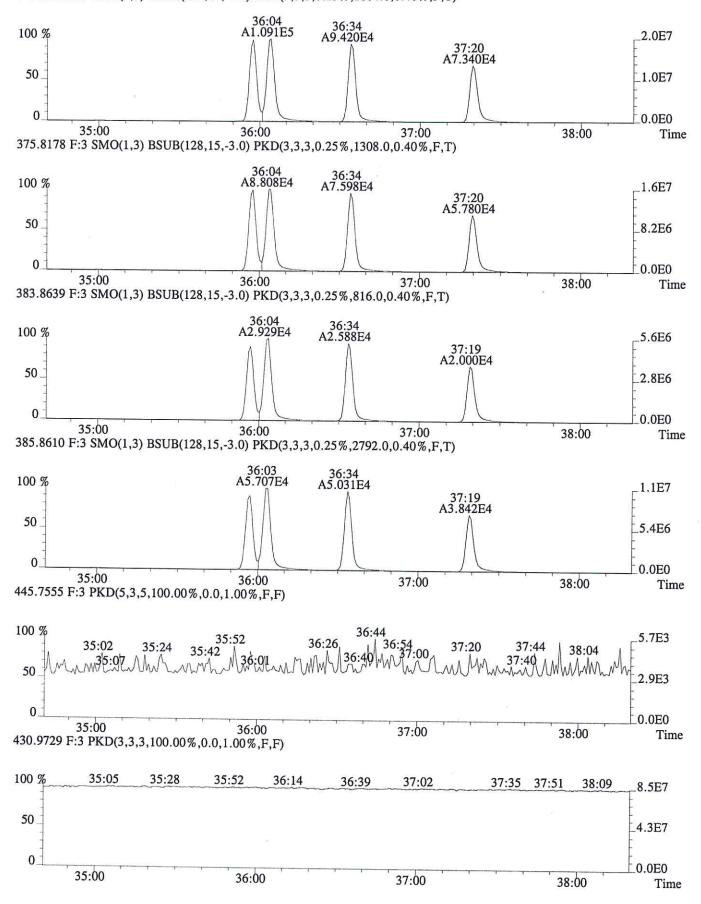
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



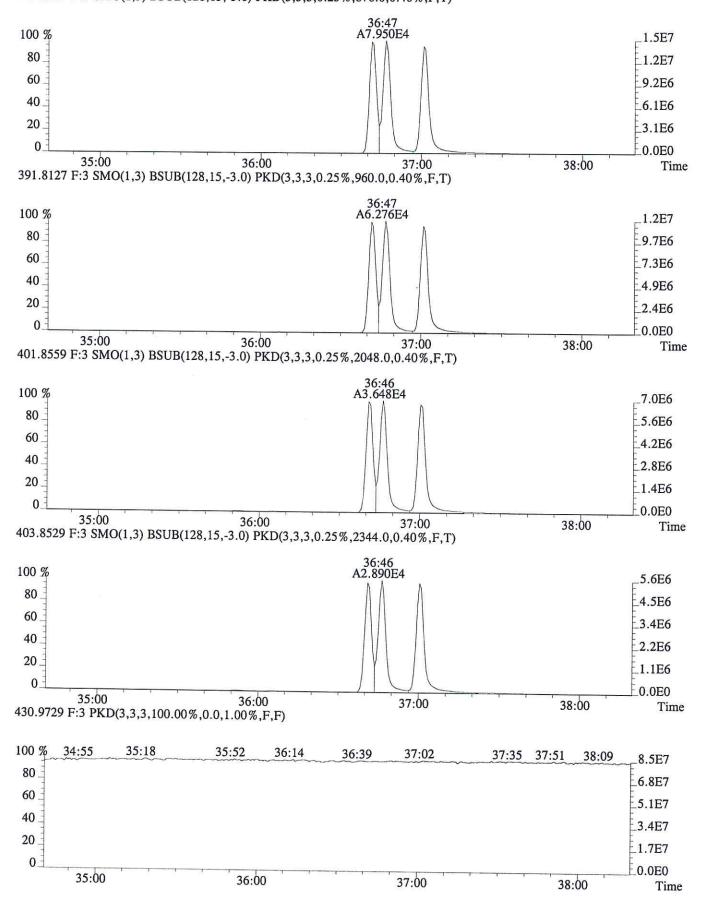
File:P603985 #1-298 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25184.0,1.00%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1804.0,0.40%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



CLIENT ID. 173640

Run #5 Filename P603986 Samp: 1 Inj: 1 Acquired: 25-JUN-16 13:45:46 Processed: 25-JUN-16 15:59:59 Sample ID: CS5 Тур Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF 28:14 8.193e+04 1.059e+05 0.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 6.139e+05 3.954e+05 1.55 yes no 0.929 11 Unk 2,3,7,8-TCDD | 29:00 6.435e+04 8.269e + 040.78 yes no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:13 4.256e+04 5.313e+040.80 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 1.61|yes 6.522e+04 4.053e+04 no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:18 6.412e+04 4.053e+04 1.58 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:18 2.154e+04 4.185e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF | 26:58 4.844e+04 6.029e+04 0.80 yes yes 1.325 27 IS 13C-2,3,7,8-TCDD 28:59 3.050e+04 3.908e+040.78 yes no 0.929 33 RS/RT 13C-1,2,3,4-TCDD 28:23 0.79|yes 3.234e+04 4.086e+04 no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 3.943e+04 3.156e+04 | 1.25|yes no 35 C/Up 37Cl-2,3,7,8-TCDD 29:00 1.476e+05 no 0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173640

Run				ıj: 1	Acquired:	25-JUN-16	13:45:46				
Proc	Processed: 25-JUN-16 15:59:59 LAB. ID: CS5										
	Name Signal 1 Noise 1 S/N Rat.1 Signal 2 Noise 2 S/N Rat.2										
	Name Signar i Noise i S/N Rat.i Signar 2 Noise 2 S/N Rat.2										
1	2,3,7,8-TCDF	1.48e+07	1.26e+03	1.2e+04	1.91e+07	4.39e+03	4.3e+03				
3	2,3,4,7,8-PeCDF	1.21e+08	1.23e+05	9.8e+02	7.74e+07	7.44e+04	1.0e+03				
11	2,3,7,8-TCDD	1.25e+07	1.75e+03	7.1e+03	1.59e+07	1.15e+03	1.4e+04				
18	13C-2,3,7,8-TCDF	7.51e+06	5.53e+03	1.4e+03	9.32e+06	2.96e+03	3.1e+03				
19	13C-1,2,3,7,8-PeCDF	1.19e+07	1.41e+04	8.4e+02	7.38e+06	7.98e+03	9.3e+02				
20	13C-2,3,4,7,8-PeCDF	1.24e+07	1.41e+04	8.8e+02	7.76e+06	7.98e+03	9.7e+02				
24	13C-1,2,3,7,8,9-HxCDF	4.21e+06	1.34e+03	3.1e+03	8.22e+06	2.01e+03	4.1e+03				
26	13C-1,2,3,4-TCDF	8.06e+06	5.53e+03	1.5e+03	1.01e+07	2.96e+03	3.4e+03				
		nana wanan manana		i inali was ta wood							
27	13C-2,3,7,8-TCDD	5.76e+06	8.03e+03	7.2e+02	7.36e+06	3.50e+03	2.1e+03				
33	13C-1,2,3,4-TCDD	6.04e+06	8.03e+03	7.5e+02	7.69e+06	3.50e+03	2.2e+03				
34	13C-1,2,3,7,8,9-HxCDD	7.59e+06	2.36e+03	3.2e+03	6.21e+06	1.56e+03	4.0e+03				
35	37Cl-2,3,7,8-TCDD	2.82e+07	2.23e+03	1.3e+04							

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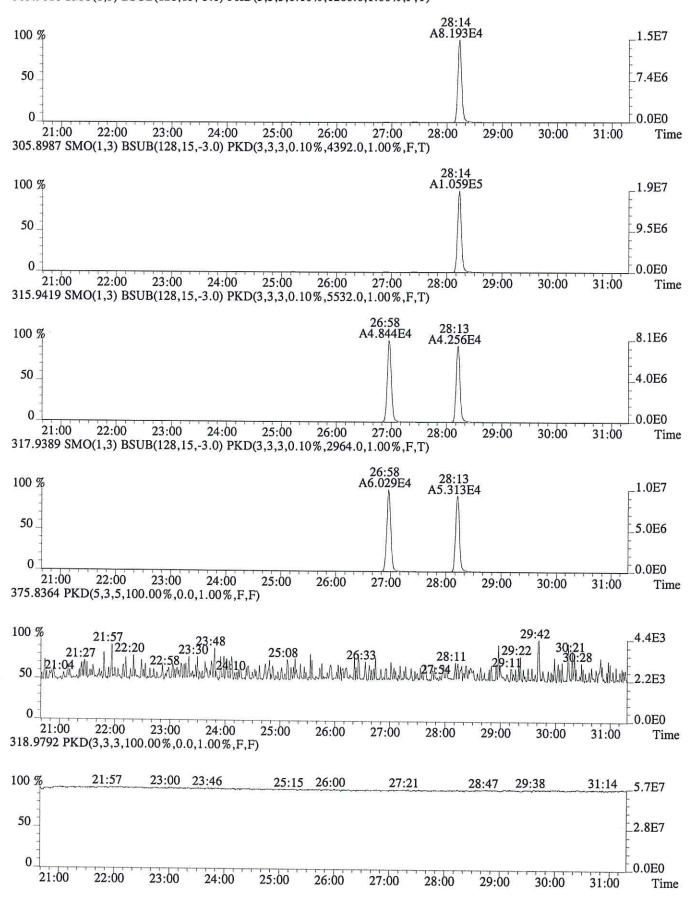
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

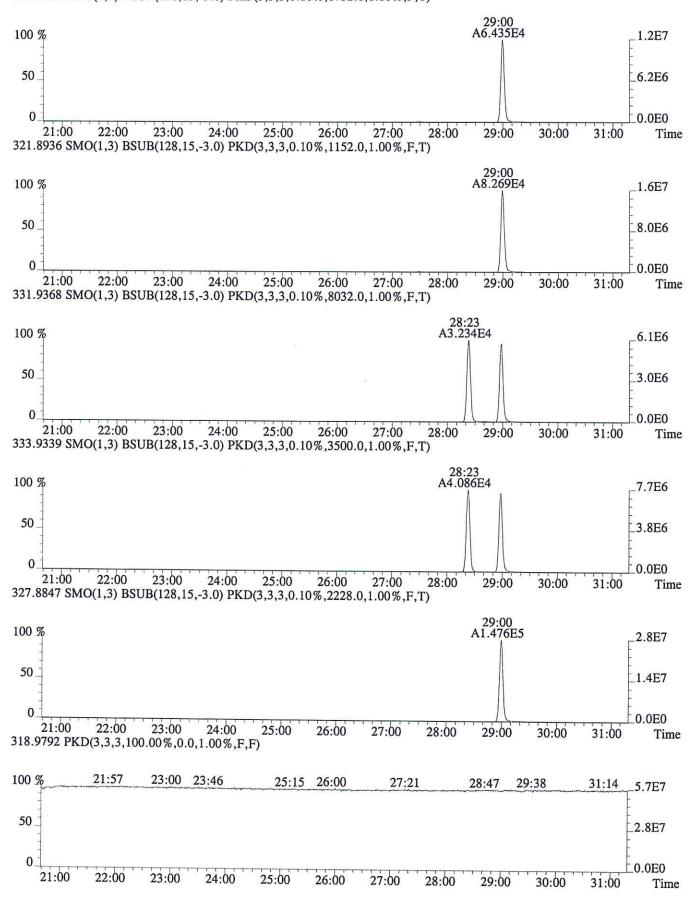
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File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)

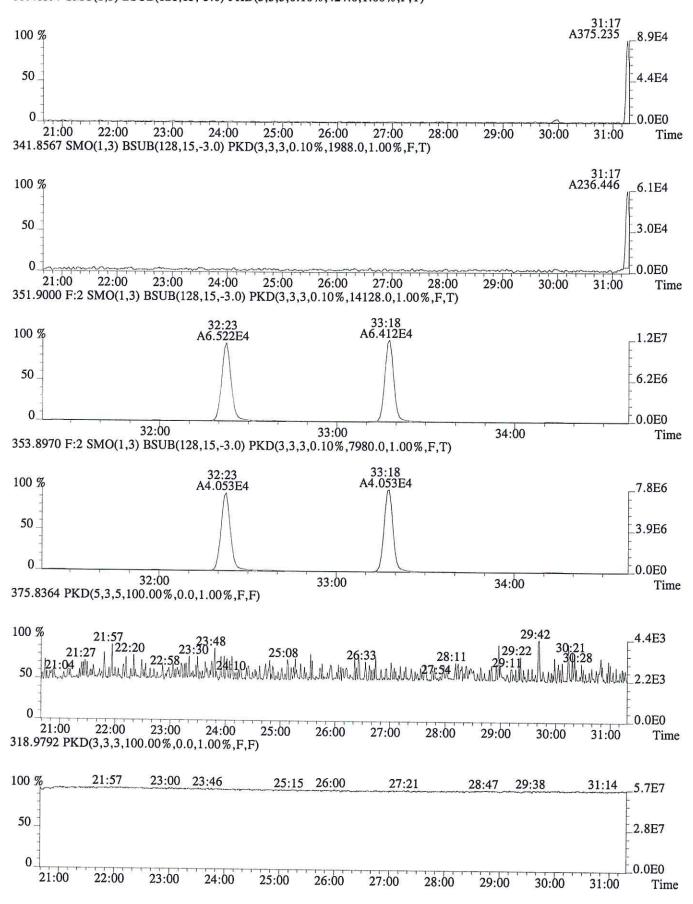


File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



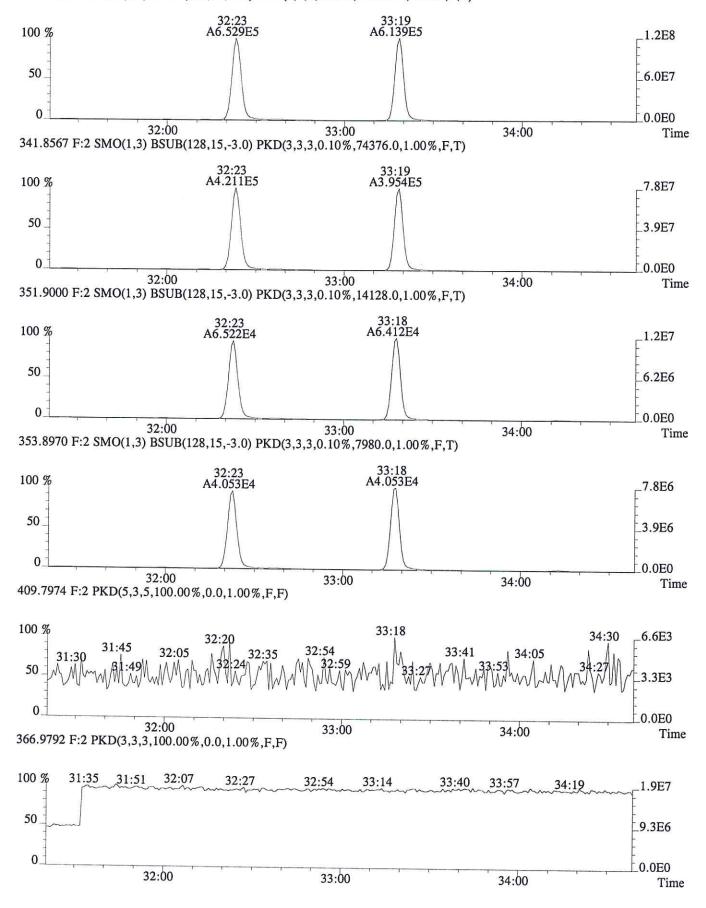
E1600282 160 of 174

File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)

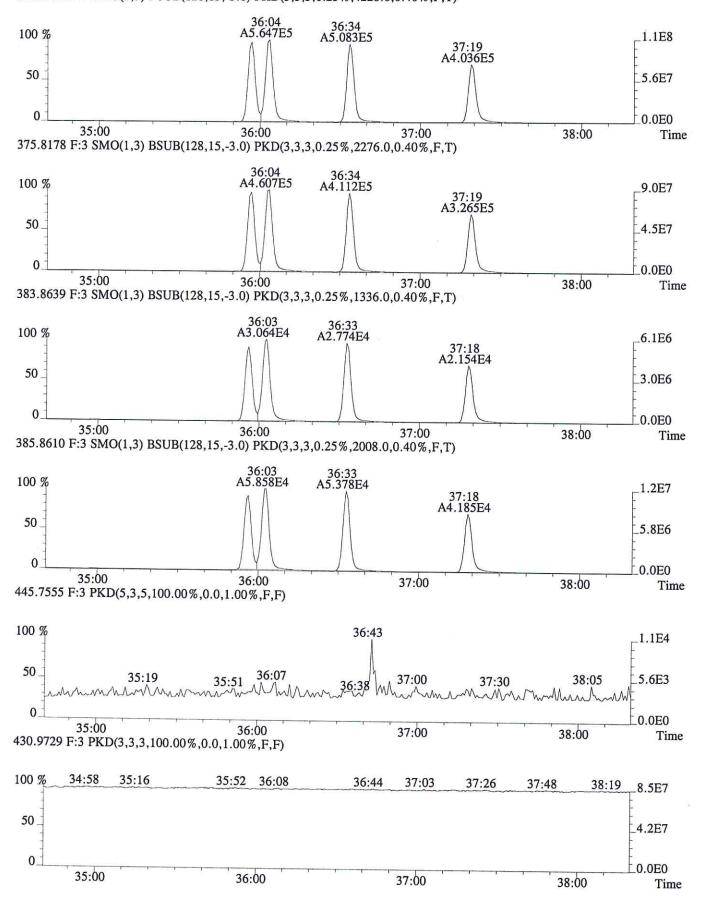


E1600282 161 of 174

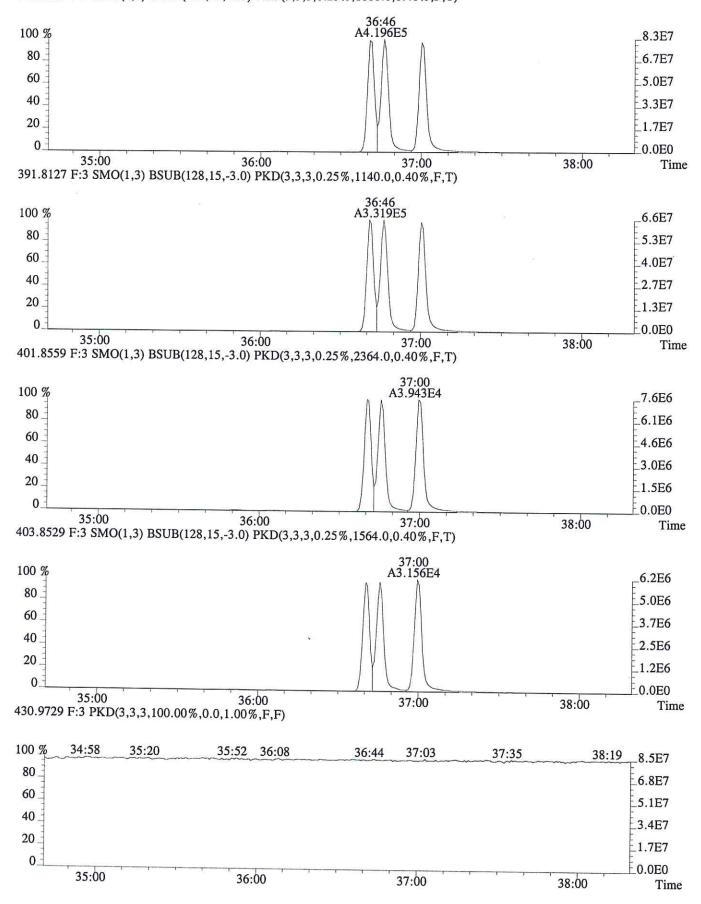
File:P603986 #1-298 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,122600.0,1.00%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4228.0,0.40%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.40%,F,T)



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	4.8 3	.9 - 6.45	-4.8
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	5.0 4	.2 - 6.0	-0.5
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	26.6 2	0.5 - 30.5	6.3

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
Method 8290
12/2012
1613F4A.FRM

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	51	41 - 60.5	2.0
13C-1,2,3,4-TCDF	M/M+2	0.80	0.65-0.89	50	35.5-70	-0.6
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.79 1.60	0.65-0.89 1.32-1.78	50 51	35.5-70 38 - 65	0.5 1.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	48	38.5 - 65	-3.0
13C-1,2,3,7,8,9-HxCD	F	0.52	0.43-0.59	53	37 - 67.5	6.3
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	-0.2

(4)

12/2012 1613F4B.FRM

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

CLIENT ID. CS3 2ND SOURCE

Run #6 Filename P603988 Samp: 1 Inj: 1 Acquired: 25-JUN-16 15:21:10

Processed:	26-JUN-16	09:08:05	Sample	ID:	CS3	2ND	SOURCE

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk IS IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:19 29:00 28:13 32:23 33:18 37:19	4.564e+03 3.377e+04 3.506e+03 4.824e+04 7.291e+04 6.894e+04 2.364e+04 4.958e+04	5.813e+03 2.175e+04 4.480e+03 6.074e+04 4.564e+04 4.348e+04 4.591e+04 6.170e+04	0.79 yes 1.55 yes 0.78 yes 0.79 yes 1.60 yes 1.59 yes 0.52 yes 0.80 yes	no no no no no no no yes	0.957 0.929 1.048 1.283 1.381 1.371 0.875
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:23 37:00	3.515e+04 3.742e+04 4.269e+04 7.970e+03	4.490e+04 4.711e+04 3.208e+04	0.78 yes 0.79 yes 1.33 yes	no no no no	0.929 - - 0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. CS3 2ND SOURCE

Run	#6 Filename P603988	Sam	p: 1 Ir	ıj: 1	Acquired:	25-JUN-16	15:21:10
Proc	essed: 26-JUN-16 09:08	8:05	LAB. II	CS3 2ND	SOURCE		
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	8.14e+05	1.32e+03	6.2e+02	1.04e+06	3.51e+03	3.0e+02
3	2,3,4,7,8-PeCDF	6.56e+06	1.10e+04	6.0e+02	4.19e+06	7.55e+03	5.6e+02
11	2,3,7,8-TCDD	6.55e+05	1.31e+03	5.0e+02	8.28e+05	1.41e+03	5.9e+02
18	13C-2,3,7,8-TCDF	8.37e+06	4.79e+03	1.7e+03	1.05e+07	2.74e+03	3.8e+03
19	13C-1,2,3,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.26e+06	1.14e+04	7.3e+02
20	13C-2,3,4,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.28e+06	1.14e+04	7.3e+02
24	13C-1,2,3,7,8,9-HxCDF	4.54e+06	9.04e+02	5.0e+03	8.79e+06	3.13e+03	2.8e+03
26	13C-1,2,3,4-TCDF	8.22e+06	4.79e+03	1.7e+03	1.03e+07	2.74e+03	3.7e+03
27	13C-2,3,7,8-TCDD	6.41e+06	8.76e+03	7.3e+02	8.18e+06	3.96e+03	2.1e+03
33	13C-1,2,3,4-TCDD	6.95e+06	8.76e+03	7.9e+02	8.65e+06	3.96e+03	2.2e+03
34	13C-1,2,3,7,8,9-HxCDD	8.12e+06	2.13e+03	3.8e+03	6.38e+06	1.43e+03	4.5e+03
35	37C1-2,3,7,8-TCDD	1.49e+06	1.75e+03	8.5e+02			

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

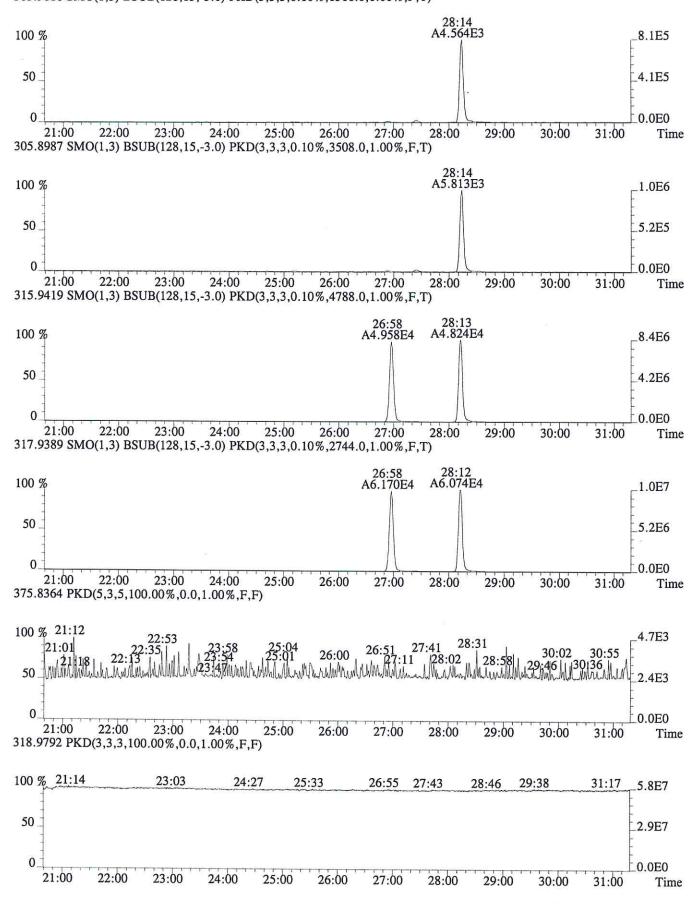
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

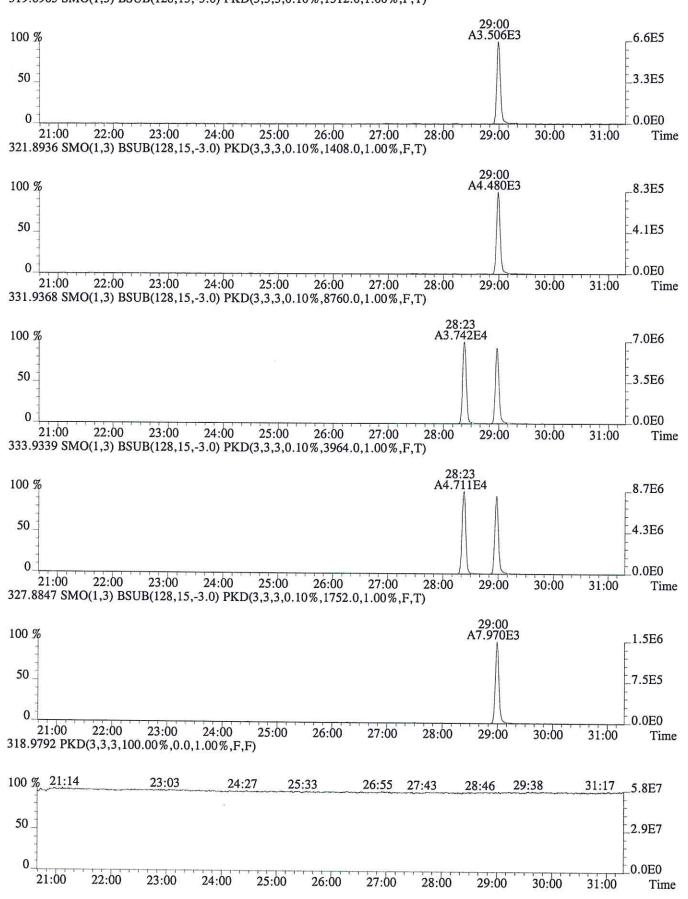
E1600282 168 of 174

File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1316.0,1.00%,F,T)

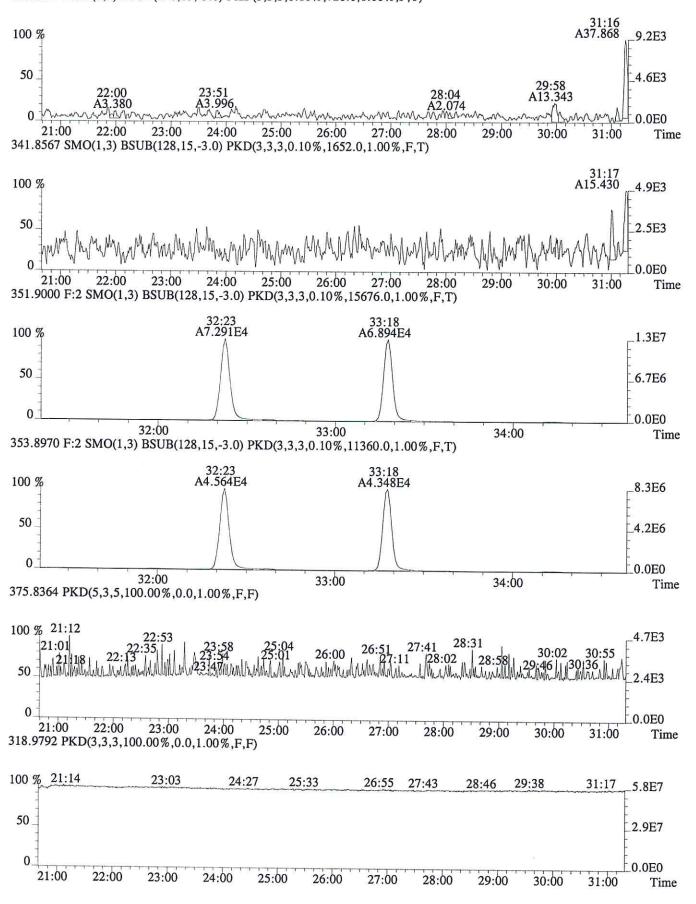


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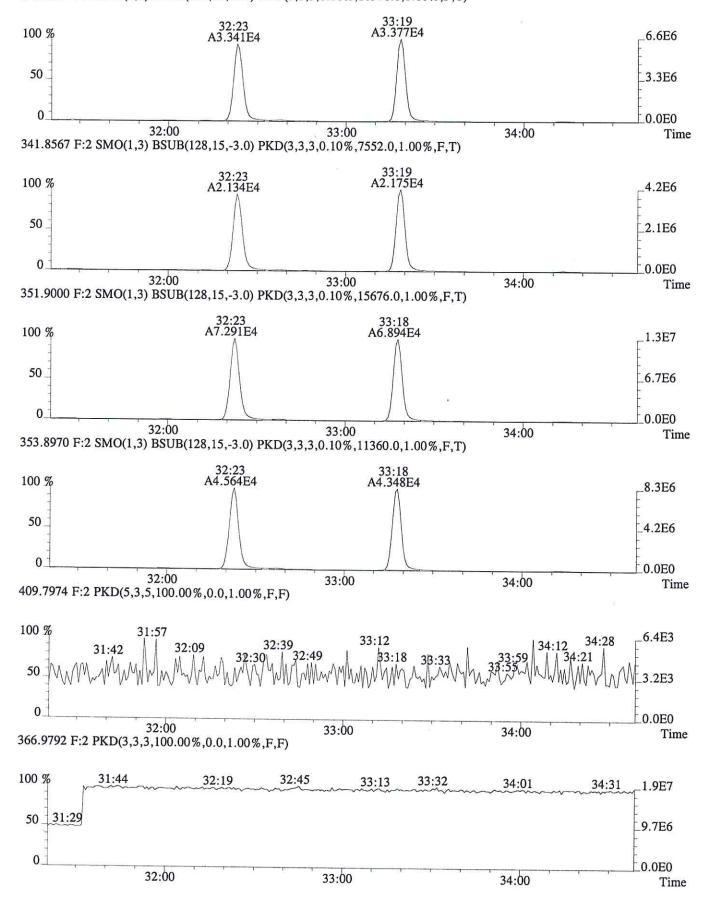
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



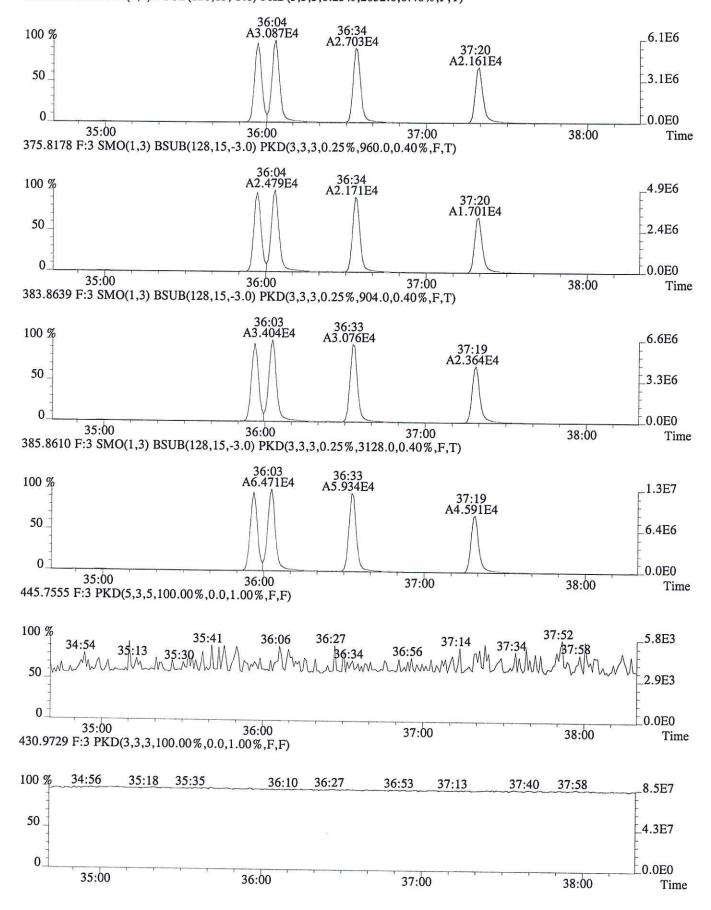
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



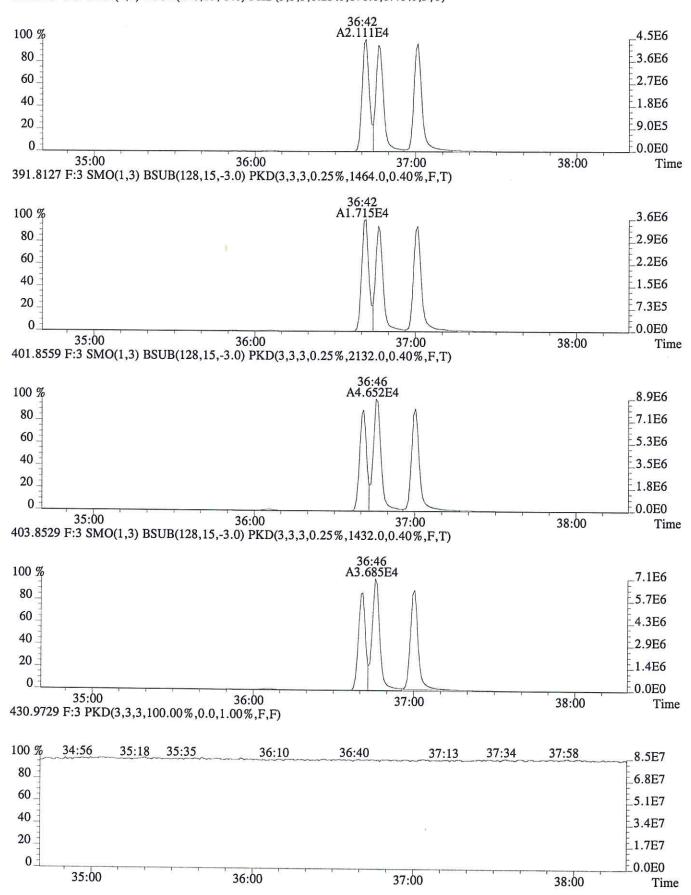
File:P603988 #1-298 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10976.0,1.00%,F,T)

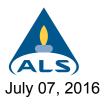


File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2032.0,0.40%,F,T)



File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)





Service Request No:E1600326

Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

Laboratory Results for: San Jacinto

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory April 08, 2016 For your reference, these analyses have been assigned our service request number **E1600326**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2279. You may also contact me via email at Arthi.Kodur@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Arthi Kodur

Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099

PHONE +1 713 266 1599 | FAX +1 713 266 0130

ALS Group USA, Corp.

dba ALS Environmental

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Certificate of Analysis

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

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ALS ENVIRONMENTAL

Client: Integral Consulting, Incorporated Service Request No.: E1600326

Project: San Jacinto/150557-01.01 Date Received: 4/8/16

Sample Matrix: SPME Fibers (Non-aqueous liquid)

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirteen SPME fibers were received for analysis at ALS Environmental – Houston HRMS on 4/8/16.

The samples were received at 17.6° C in good condition and are consistent with the accompanying chain of custody form. The client was contacted and allowed the continuation of analysis. The samples were stored in a refrigerator at 4° C upon receipt at the laboratory.

Custody seals were not present on the cooler upon arrival at the laboratory.

Extraction

The samples in batch EQ1600219 were spiked with the 1613B full list labeled standard. The samples in batch EQ1600222 were spiked with 8290 full list labeled standards. All samples were shaken for 2 minutes with 60 ml of hexane. The solvent was decanted to a new jar and rinsed. Samples were then spiked with M23 Alternate standard which only has 1,2,3,7,8,9 HxCDF.

Data Validation Notes and Discussion

Precision and Accuracy

EQ1600219: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

EQ1600220: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Y flags - Labeled Standards

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Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Client: Integral Consulting, Incorporated

Project: San Jacinto/150557-01.01

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	<u>DATE</u>	<u>TIME</u>
E1600326-001	03162016SJGW1	3/16/2016	0900
E1600326-002	04072016SJGW1	4/7/2016	0900
E1600326-003	04072016SJGW2	4/7/2016	0900
E1600326-004	04072016SJGW10	4/7/2016	0930
E1600326-005	04072016SJGW11	4/7/2016	0930
E1600326-006	04072016SJGW12	4/7/2016	0930
E1600326-007	04072016SJGW13	4/7/2016	0930
E1600326-008	04072016SJGW14	4/7/2016	0930
E1600326-009	04072016SJGW15	4/7/2016	0930
E1600326-010	04072016SJGW16	4/7/2016	1000
E1600326-011	04072016SJGW17	4/7/2016	1000
E1600326-012	04072016SJGW18	4/7/2016	1000

Service Request Summary

Folder #: E1600326

Client Name: Integral Consulting, Incorporated

Project Name: San Jacinto
Project Number: 150557-01.01

Report To: Craig Hutchings

Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

USA

Phone Number: 360-705-3534

Cell Number: Fax Number:

E-mail: chutchings@integral-corp.com

Project Chemist: Arthi Kodur Originating Lab: HOUSTON

Logged By: AKODUR

Date Received: 04/08/16 Internal Due Date: 5/11/2016

QAP: LAB QAP

Qualifier Set: HRMS Qualifier Set

Formset: Lab Standard

Merged?: N

Report to MDL?: N

P.O. Number:

HOUST ON EDD: No EDD Specified

Dioxins Furans/1613B Lab Samp No. **Client Samp No** Matrix Collected E1600326-001 03162016SJGW1 NonAq Liquid 03/16/16 0900 IV E1600326-002 04072016SJGW1 NonAq Liquid 04/07/16 0900 I۷ E1600326-003 04072016SJGW2 NonAq Liquid 04/07/16 0900 IV E1600326-004 04072016SJGW10 NonAg Liquid 04/07/16 0930 IV E1600326-005 04072016SJGW11 NonAg Liquid 04/07/16 0930 IV E1600326-006 04072016SJGW12 NonAq Liquid 04/07/16 0930 IV I۷ E1600326-007 04072016SJGW13 NonAq Liquid 04/07/16 0930 E1600326-008 04072016SJGW14 NonAq Liquid 04/07/16 0930 I۷ E1600326-009 04072016SJGW15 NonAq Liquid 04/07/16 0930 ΙV E1600326-010 04072016SJGW16 NonAq Liquid 04/07/16 1000 IV E1600326-011 04/07/16 1000 IV 04072016SJGW17 NonAq Liquid E1600326-012 04072016SJGW18 NonAq Liquid 04/07/16 1000 ΙV

Printed 7/7/2016 5:38:26 PM E1600326

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12 -N/A N/A

Location: E-Disposed, EHRMS-WIC 3B

Pressure Gas:

R

Service Request Summary

Project Chemist: Arthi Kodur 12 -N/A N/A Folder #: E1600326

Location: E-Disposed, EHRMS-WIC 3B Integral Consulting, Incorporated Originating Lab: HOUSTON Client Name:

> Pressure Gas: San Jacinto Logged By: AKODUR

Project Name: Project Number: 150557-01.01 Date Received: 04/08/16

> Internal Due Date: 5/11/2016 Craig Hutchings QAP: LAB QAP

Integral Consulting, Inc. Qualifier Set: HRMS Qualifier Set

1205 West Bay Drive NW Formset: Lab Standard

Olympia, WA 98502-4670 Merged?: N USA

Report to MDL?: N Phone Number: 360-705-3534

Cell Number: P.O. Number:

Fax Number: EDD: No EDD Specified

E-mail: chutchings@integral-corp.com

Test Comments:

Report To:

Test/Method Group Samples Comments Semivoa GCMS Dioxins Furans/1613B 3 E1600326-010-013 on hold (ak 4/20/16) Semivoa GCMS 9 E1600326-001-003: native TCDD/TCDF,23478 PeCDF (ak 4/20/16) Dioxins Furans/1613B

do not extract till curve is ready, talk to Arthi before starting anything (ak 5/2/16)

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Superset Summary

Service Request: E1600326 SuperSet Reference: 16-0000383419 rev 00

Analytical Method: 1613B

Calibrations: 06/25/16

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P603995	P603991	P603993	E1600326-001
P603996	P603991	P603993	E1600326-002
P603997	P603991	P603993	E1600326-003
P603998	P603991	P604007	E1600326-004
P603999	P603991	P604007	E1600326-005
P604000	P603991	P604007	E1600326-006
P604001	P603991	P604007	E1600326-007
P604010	P604006	P604007	E1600326-008
P604011	P604006	P604007	E1600326-009
P603993	P603991	P603993	EQ1600219-01
P604002	P603991	P603993	EQ1600219-02
P604003	P603991	P603993	EQ1600219-03
P604007	P604006	P604007	EQ1600220-01
P604016	P604006	P604007	EQ1600220-02
P604017	P604006	P604007	EQ1600220-03

Printed 7/7/2016 5:38:26 PM

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Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. The concentration of this analyte should be considered as an estimate.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
- i The MDL/MRL have been elevated due to a matrix interference.

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ALS Laboratory Group

Acronyms

Cal Calibration
Conc CONCentration

Dioxin(s) Polychlorinated dibenzo-p-dioxin(s)

EDL Estimated Detection Limit

EMPC Estimated Maximum Possible Concentration

Flags Data qualifiers

Furan(s) Polychlorinated dibenzofuran(s)

g Grams

ICAL Initial CALibration

ID IDentifier

Ions Masses monitored for the analyte during data acquisition

L Liter (s)

LCS Laboratory Control Sample

DLCS Duplicate Laboratory Control Sample

MB Method Blank

MCL Method Calibration Limit
MDL Method Detection Limit

mL Milliliters

MS Matrix Spiked sample

DMS Duplicate Matrix Spiked sample

NO Number of peaks meeting all identification criteria

PCDD(s) Polychlorinated dibenzo-p-dioxin(s) PCDF(s) Polychlorinated dibenzofuran(s)

ppb Parts per billion
ppm Parts per million
ppq Parts per quadrillion
ppt Parts per trillion
QA Quality Assurance
QC Quality Control

Ratio Ratio of areas from monitored ions for an analyte

% Rec. Percent recovery

RPD Relative Percent Difference RRF Relative Response Factor

RT Retention Time

SDG Sample Delivery Group S/N Signal-to-noise ratio

TEF Toxicity Equivalence Factor
TEQ Toxicity Equivalence Quotient

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State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2017
Arizona Department of Health Services	AZ0793	5/27/2017
Arkansas Department of Environmental Quality	14-038-0	6/16/2017
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2017
Hawaii Department of Health	TX02694	4/30/2017
Illinois Environmental Protection Agency	200057	10/6/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2016
Maine Center for Disease Control and Prevention	2014019	6/5/2018
Maryland Department of the Environment	343	6/30/2017
Minnesota Department of Health	840911	12/31/2016
Nevada Department of Concervation and Natural Resources	TX014112013-2	7/31/2016
New Jersey Department of Environmental Protection	NLC140001	6/30/2017
New Mexico Environment Department	TX02694	4/17/2017
New York Department of Health	11707	4/1/2017
Oklahoma Department of Environmental Quality	2014 124	8/31/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2017
Tennessee Department of Environment and Concervation	04016	6/30/2017
Texas Commission on Environmental Quality	TX104704216-14-5	6/30/2017
United States Department of Agriculture	P330-14-00067	2/21/2017
Utah Department of Health Environmental Laboratory Certification	TX02694	7/31/2016
Washington Department of Health	c819	11/14/2016
West Virginia Department of Environmental Protection	347	8/31/2016

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ALS ENVIRONMENTAL – Houston Data Processing/Form Production and Peer Review Signatures

SR# Unique	ID E1600326		DB-5MSUI)	SPB-Octyl
	irst Level - Data Process	ing - to be filled by pers	on generating	the forms
Date:	OAnalyst:	Samples: O	01-00	
	10111			
	V			
计算数据	Second Level - Data Rev	view – to be filled by pers	son doing pee	er review
Date:	Analyst:	Samples:		
07/05/16	LKL	601-007	/	

PEER REVIEW PAGE2015

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ALS ENVIRONMENTAL – Houston Data Processing/Form Production and Peer Review Signatures

SR# Unique ID	E1600326	,	DB-5MSU)	SPB-Octyl
First	evel - Data Proces	sing - to be filled by p	erson generating	the forms
Date: ()7 ()7	Analyst:	Samples:	008,000	1
	1. 9		,	
	V			
Sec	ond Level - Data Re	eview – to be filled by	person doing pee	er review
Date:	Analyst:	Samples:		
07/07/16	LKC	රට දි	3,009	
			_	

PEER REVIEW PAGE2015

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Chain of Custody

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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Chai	n of Custody Record & Labo	oratory Analysis Rec	uest																	
	Laboratory Number:									Tes	t Param	eters								
Pi	roject Number: 15055		Kanponton rata)	Containers	TCPD	TCDAT	recur	23787CPD	1234TOF	23878 ROOF										ANCHOR OEA 222
Line	Field Sample ID	Collection Date/Time	Matrix	No. of	37.28	23.18	RIACE	37Cl -	BC-	3C-										Comments/Preservation
1	03/62016 SJGW /		Hexane		11	111														40ML Hoxane rinsate of PDMS tiles
	04072016 SJGW 1	04/07/2016 9:00	Itexame	/	Ш	1		Н	Ш	_			_			_				40ml Itexane riusate of Sampler assault
3 4	04072016 SJGWZ	04/07/2016 9:00	Hexano	/	1	V ,	4	H	Н	-		\vdash	+	+	\vdash	_			_	40 ml Hexane riverate of Gu Sampleross
5	04072016 SJGW 10	04/07/2016 9:30	SPME	1	-	11	+		\forall	1	_	\vdash	+	+	\vdash	+	\vdash		_	David du Comit II b
6	04072016 STGW 11	04/67 /2016 9:30		1	Н		+	Н		+		\vdash	+	+	\vdash	+	+		+	PDMS tiber for SPME blank
	040 72016 SJGW 12	04/07 /2016 9.30		1	H	+	-		H	+		\vdash	+	+	\vdash	+	+	-1	+	PDMS filer to determine Co of PRCs
8	04072016 SJGW 13	0K/02/2016 7.30		1	$\dagger \dagger \dagger$	+	+	$\forall \exists$	H	+		\vdash	+	+	\vdash	+	+	-	+	PDMS fiber to determine CoofPRCs
9	04072016 STOW 14	04/07/2016 9:30		1	H	+		Ш	H	+		\vdash	+	+	\vdash	+	+	\vdash	+	PDMS ther to determine GofPRCs PDMS ther to determine GofPRCs
10	04072016 SJGW 15	04/07/20/6 3:30		1	1	1		1	1	1		\vdash		+		+	\vdash	-	+	PDMS filer to determine C. of PRCS
11	0407 LO16 S JGW 16	04/07/2016 10:00		1				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	7			\vdash	\top	+	\vdash	+		\neg	+	DMS fiber for Lab QC (150.00m)
12	0/072016 SJGW 17	04/07/10/6 10:00		1	П			П		\neg				1		+	T		+	PPMS fiber for Lab QC (150.0 an)
13	04072016STGW 18	04/01/2016 10:00	2	1									\top				\Box		1	PDMS fiber for Lab QC (150.00m)
14																	\Box		T	THIS WHEN ION EACH (150 COUNT)
15														1						
	Notes: 04072016 STG		ME B	lan	K	(1)	8.3	ナ	75	·X	cm)	a	040	71	016	S	GU	VI	1 -	-15: PDMS filers to
	determine initi	al PRCs concer			(11		26.	0 -		t. I cm	<i>'</i>	12:	7.	5.1	+	74.	9cx	n,	13: 25.0+25.0 cm=
	14: 15.8+ 7	5.0 Cm , 15:	25	0	+	25.	/	cm) ,		0407	201	65		W	16	~18	P :	1	PDMS fibers to lab QC
	(/6: 75.0 + 73 Relinquished By:	5-0 cm / 1) =	?: Ancho	r OF	25 = A T	100	m,	Rece	8°	7	5.0 +	25	0 0	m)						
	me,				1 10		1	1,000	S146(. " у.										Company:
	Signature/Printed Name	Masa Kaner	natsu	_		, ,,	6	0:		/F :										
1	Orginature/Frinten Natile			Date	e/Time	е		Sign	ature	e/Prir	nted Name)						,,		Date/Time
	Relinquished By:	Company						Rece	eived	і Ву:	M			7						Company: 415 172115 9500
	Signature/Printed Name			Date	/Time	9]	Sign	ature	/Prin	nted Name			<u> </u>						7/5/10 1.50 1 Date/Time
														×		60				

E1600326
Integral Consulting, Inc.
San Jacinto

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Cooler Receipt Form Project Chemist AK

Client/Project Anchor QEA			The	rmometer ID	SM	64
Date/Time Received: 4/8/16 9:0	initia	als: AL Date	:/Time Logg	ed in: 4/8/	16	Initials AL
	Fed Ex	○ UPS elope ○ Other	ODHL C	Courler (Clien	t
3. Were custody seals on coolers? Yes Were they intact? Yes Were they signed and dated? Yes		CN/A an	es, how mand where?	No S	eals	5
4. Packing Material: Olnserts Baggies	Bubble Wr	ap CGel Packs	○ Wet lo	e 🔿 Sleev	es O	Other
5. Foreign or Regulated Soil? \(\text{Yes}	€No	Location of Sa	mpling:			
Cooler Tracking Number	COCID	Date Opened	Time Opened	Opened I		Temp. Temp °C Blank?
1 160 6344 3470		4/8/16	9:15	AL	1	5.6 17.6
6. Were custody papers properly filled out (ink, si 7. Did all bottles arrive in good condition (not bro 8. Were all sample labels complete (i.e., sample II 9. Were appropriate bottles/containers and volume	oken, no si O, analysis,	gns of leakage)? preservation, etc)		©Yes ©Yes ©Yes		0
10. Did sample labels and tags agree with custoo	ly docume	nts?		Ves	ONG	or,
Notes, Discrepancies, & Resolutions: Samples received out of few	PAL	- 4/3/16				

Service request Label:

E1600326 integral Consulting, Inc. San Jacinto



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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental - Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

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Prep Run#: 262304 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/26/16 12:00 PM

#	Lab Code	Client ID	B#	Method /Test	рН	CI	Matrix	Amt. Ext.	Sample Description
1	E1600282-006	04052016SJPW10	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
2	E1600326-001	03162016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
3	E1600326-002	04072016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
4	E1600326-003	04072016SJGW2	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
5	EQ1600219-01	MB		1613B/Dioxins Furans			NonAq Liquid	2.210g	
6	EQ1600219-02	LCS		1613B/Dioxins Furans			NonAq Liquid	2.086g	
7	EQ1600219-03	DLCS		1613B/Dioxins Furans			NonAq Liquid	2.032g	

Spiking Solutions

· · · · · · · · · · · · · · · · · · ·										
Name: 23/TO-9A Alterr	nate Working Solution	I	nventory ID 864	167	Logbook Ref:	86467 12/8/2015	CID 100ng/ml		Expires On: 06/	05/2016
E1600282-006 20.00μL EQ1600219-03 20.00μL	E1600326-001	20.00μL	E1600326-002	20.00μL	E1600326-003	20.00μL	EQ1600219-01	20.00μL	EQ1600219-02	20.00μL
Name: 1613B Matrix W	orking Standard	I	nventory ID 172	2305	Logbook Ref:	JP 172305 5/10/10	6 2-20 ng/mL		Expires On: 11/	06/2016
E1600282-006 100.00μL EQ1600219-03 100.00μL	E1600326-001	100.00μL	E1600326-002	100.00μL	E1600326-003	100.00μL	EQ1600219-01	100.00μL	EQ1600219-02	100.00μL
Name: 1613B Labeled V	Working Standard	I	nventory ID 172	2717	Logbook Ref:	172717 AL 05/25	/16 2-4ng/mL		Expires On: 11/	16/2016
E1600282-006 1,000.00µl EQ1600219-03 1,000.00µl		1,000.00μL	E1600326-002	1,000.00μL	E1600326-003	1,000.00μL	EQ1600219-01	1,000.00μL	EQ1600219-02	1,000.00μL
Preparation Materials										
Carbon, High Purity	CID 05/23/2016 (17262	(2)	Ethyl Acetate 99.99 EtOAc	% Minimum	CID 02/25/2016 (8832	24)	Glass Wool		CID 04/01/201 (171329)	

Carbon, right runty	CID 03/23/2010 (1/2022)	Euryl Acetate 99.9% Millimulii	CID 02/23/2010 (88324)	Glass wool	CID 04/01/201 (1/1329)
		EtOAc			
Hexanes 95%	CID 05/16/2016 (172432)	Dichloromethane (Methylene	JP 5/11/16 (172330)	Sodium Hydroxide Reagent	05/12/2016 CID (172369)
		Chloride) 99.9% MeCl2		Grade NaOH	
Sodium Sulfate Anhydrous	AL 04/25/16 (171913)	Asian Taste Pure Canola Oil	TW 04/29/16 (172043)	Silica Gel	CID 05/13/2016 (172433)
Reagent Grade Na2SO4					

Preparation Steps

AL 03/25/16 (89012)

sulfuric acid

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	5/26/16 12:00	Started:	6/1/16 14:00	Started:	6/3/16 08:00	Started:	6/3/16 12:00
Finished:	5/26/16 14:00	Finished:	6/1/16 15:00	Finished:	6/3/16 09:30	Finished:	6/3/16 12:30
By:	ALOPEZ	By:	ALOPEZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Printed 6/17/16 10:43 E1600326

 Prep Run#:
 262304
 Prep WorkFlow:
 OrgExtDiox(365)
 Status:
 Prepped

Team:Semivoa GCMS/ALOPEZPrep Method:MethodPrep Date/Time:5/26/16 12:00 PM

Prep Run#: 262305 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/25/16 02:30 PM

#	Lab Code	Client ID	B#	Method /Test	рН	CI	Matrix	Amt. Ext.	Sample Description
1	E1600326-004	04072016SJGW10	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
2	E1600326-005	04072016SJGW11	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
3	E1600326-006	04072016SJGW12	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
4	E1600326-007	04072016SJGW13	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
5	E1600326-008	04072016SJGW14	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
6	E1600326-009	04072016SJGW15	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
7	EQ1600220-01	MB		1613B/Dioxins Furans			NonAq Liquid	2.201g	
8	EQ1600220-02	LCS		1613B/Dioxins Furans			NonAq Liquid	2.007g	
9	EQ1600220-03	DLCS		1613B/Dioxins Furans			NonAq Liquid	2.089g	

Spiking Solutions

Name: 23/TO-9A Alternate	e Working Solution	Inventory ID 86467	Logbook Ref: 86467 12/8/2015 C	CID 100ng/ml	Expires On: 06/05/2016
Ε1600326-004 20.00μL	E1600326-005 20.00μL	E1600326-006 20.00μL	Ε1600326-007 20.00μL	E1600326-008 20.00μL	E1600326-009 20.00μL
EQ1600220-01 20.00μL	EQ1600220-02 20.00μL	EQ1600220-03 20.00μL			
Name: 1613B Matrix Work	king Standard	Inventory ID 172305	Logbook Ref: JP 172305 5/10/16	2-20 ng/mL	Expires On: 11/06/2016
EQ1600220-02 100.00μL	EQ1600220-03 100.00μL				
Name: 8290 Internal Work	ing Standard	Inventory ID 172703	Logbook Ref: 172703 AL 05/24/1	16 10-50 ng/mL	Expires On: 11/20/2016
E1600326-004 100.00μL	E1600326-005 100.00μL	E1600326-006 100.00μL	E1600326-007 100.00μL	Ε1600326-008 100.00μL	Ε1600326-009 100.00μL
EQ1600220-01 100.00μL	EQ1600220-02 100.00μL	EQ1600220-03 100.00μL			
Preparation Materials					
Carbon, High Purity	CID 05/23/2016 (172622)	Ethyl Acetate 99.9% Minimum EtOAc	CID 02/25/2016 (88324)	Glass Wool	CID 04/01/201 (171329)
Hexanes 95%	CID 05/16/2016 (172432)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	JP 5/11/16 (172330)	Sodium Hydroxide Reagent Grade NaOH	CID 5/23/2016 (172624)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 04/25/16 (171913)	Asian Taste Pure Canola Oil	TW 04/29/16 (172043)	Silica Gel	CID 05/13/2016 (172433)
sulfuric acid	AL 03/25/16 (89012)	Toluene 99.9% Minimum	AL 05/23/16 (172678)		

Prep Run#: 262305 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/25/16 02:30 PM

Preparation Steps

Step: Extraction Step: Acid Clean Step: Silica Gel Clean Step: Final Volume Started: 5/25/16 14:30 Started: 5/25/16 16:30 Started: 5/26/16 06:00 Started: 5/26/16 11:00 Finished: 5/26/16 14:52 Finished: 5/25/16 17:00 Finished: 5/26/16 10:30 Finished: 5/26/16 14:50 ALOPEZ ALOPEZ ALOPEZ ALOPEZ By: By: By: By:

Comments Comments Comments Comments

Coı	mments:		
Rev	viewed By:	Date:	
Cha	nin of Custody		
R	elinquished By:	Date:	Extracts Examined
R	eceived By:	Date:	Yes No

Printed 6/17/16 10:46 E1600326



Analytical Results

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 03/16/16 09:00 **Project:** San Jacinto/150557-01.01 **Date Received:** 04/08/16 09:00 **Sample Matrix:** NonAq Liquid

Sample Name: 03162016SJGW1 Units: ng/Kg

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 21:26

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: Blank File Name: P603993 P603995 **ICAL Date:**

06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:03/16/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 03162016SJGW1 Units: ng/Kg

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 21:26

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08

Sample Amount: 1.000g

GC Column: DB-5MSUI

P603995 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Data File Name:

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:03/16/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 03162016SJGW1 Units:

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/25/16 21:26

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

Data File Name: P603995

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	cone.(pg)	0	/o Rec	V	Limes	111110	
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	924.038	46		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	876.710	44		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	867.417	43		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	825.204	41		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1592.206	40		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.784			35-197	NA	1.022

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW1 Units: ng/Kg

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08

1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603996 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) U ND 5.00 1 2,3,7,8-Tetrachlorodibenzofuran (TCDF) ND U 5.00 1 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 25.0 1 ND U

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

 Client:
 Integral Consulting, Incorporated
 Service Request:
 E1600326

 Project:
 San Jacinto/150557-01.01
 Date Collected:
 04/07/16 09:00

 Sample Matrix:
 NonAq Liquid
 Date Received:
 04/08/16 09:00

Sample Name: 04072016SJGW1 Units: ng/Kg

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603996 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW1 Units:

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P603996

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	876.748	44		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	842.951	42		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	884.009	44		24-185	1.58	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	847.501	42		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1799.486	45		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.780			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:00 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW2 Units: ng/Kg

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:04

Prep Method: Method **Date Extracted:** 5/26/16

Sample Amount: 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI Blank File Name: P603993

Data File Name: P603997 **ICAL Date:** 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

 Client:
 Integral Consulting, Incorporated
 Service Request:
 E1600326

 Project:
 San Jacinto/150557-01.01
 Date Collected:
 04/07/16 09:00

 Sample Matrix:
 NonAq Liquid
 Date Received:
 04/08/16 09:00

Sample Name: 04072016SJGW2 Units: ng/Kg

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/25/16 23:04

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g

Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603997 **Blank File Name:** P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW2 Units:

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:04

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P603997
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	858.906	43		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	821.549	41		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	850.108	43		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	824.903	41		21-178	1.60	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1730.421	43		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.484			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW10 Units: ng/Kg

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:53

Prep Method: Method Date Extracted: 5/25/16
Sample Amount: 1 000g
Instrument Name: F HPMS 08

Sample Amount: 1.000g

Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603998 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) U ND 5.00 1 2,3,7,8-Tetrachlorodibenzofuran (TCDF) ND U 5.00 1 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 25.0 1 ND U

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Analytical Report

 Client:
 Integral Consulting, Incorporated
 Service Request:
 E1600326

 Project:
 San Jacinto/150557-01.01
 Date Collected:
 04/07/16 09:30

 Sample Matrix:
 NonAq Liquid
 Date Received:
 04/08/16 09:00

Sample Name: 04072016SJGW10 Units: ng/Kg

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:53

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g

Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603998 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01

Sample Matrix: NonAq Liquid **Date Received:** 04/08/16 09:00

04072016SJGW10 **Sample Name: Units:**

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:53

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: P603998 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	104.060				0.77	0.951
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	346.348	35		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	362.174	36		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	430.225	43		24-185	1.61	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	77.253	19	Y	21-178	1.57	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	923.092	46		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	45.447			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30

Sample Matrix: NonAq Liquid Date Received: 04/08/16 09:00

Sample Name: 04072016SJGW11 Units: ng/Kg

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603999 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) U ND 5.00 1 2,3,7,8-Tetrachlorodibenzofuran (TCDF) ND U 5.00 1 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 25.0 1 ND U

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Analytical Report

 Client:
 Integral Consulting, Incorporated
 Service Request:
 E1600326

 Project:
 San Jacinto/150557-01.01
 Date Collected:
 04/07/16 09:30

 Sample Matrix:
 NonAq Liquid
 Date Received:
 04/08/16 09:00

Sample Name: 04072016SJGW11 Units: ng/Kg

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method: Method Date Extracted: 5/25/16
Sample Amount: 1 000g Instrument Name: F-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P603999
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW11 **Units:**

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: P603999 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	o	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	89.905				0.79	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	298.741	30		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	305.926	31		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	366.627	37		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	67.032	17	Y	21-178	1.62	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	866.877	43		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	39.581			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW12 Units: ng/Kg

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604000

Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

 Client:
 Integral Consulting, Incorporated
 Service Request:
 E1600326

 Project:
 San Jacinto/150557-01.01
 Date Collected:
 04/07/16 09:30

 Sample Matrix:
 NonAq Liquid
 Date Received:
 04/08/16 09:00

Sample Name: 04072016SJGW12 Units: ng/Kg

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604000 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** Tetrachlorodibenzo-p-dioxins (TCDD), Total U ND 5.00 1 Tetrachlorodibenzofurans (TCDF), Total ND U 5.00 1 Pentachlorodibenzofurans (PeCDF), Total 25.0 1 ND U

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW12 Units:

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604000
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	107.635				0.80	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	355.081	36		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	380.932	38		24-169	0.79	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	412.800	41		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	72.901			21-178	1.56	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	844.654	42		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	44.712			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW13 Units: ng/Kg

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

> P604001 Blank File Name: P604007

GC Column: DB-5MSUI

Data File Name: ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

	Dilution						
Analyte Name	Result	Q	MRL	Factor			
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	21.4	1			
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	23.7	1			
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1			

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW13 Units: ng/Kg

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name:P604001Blank File Name:P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	21.4	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	23.7	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW13 Units:

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604001

 ICAL Date:
 06/25/16

 Blank File Name:
 P604007

 Cal Ver. File Name:
 P603991

Labeled Standard Results

Labeled Compounds	Spike	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
	Conc.(pg)	(1.0)	70 Nec	Ų	Lillius		-
1,2,3,4-Tetrachlorodibenzofuran-C13	350	99.386				0.73	0.951
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	255.982	26		25-164	0.77	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	284.227	28		24-169	0.82	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	380.088	38		24-185	1.55	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	65.915			21-178	1.45	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	722.817	36		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	36.092			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units: ng/Kg

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604010
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) U ND 11.3 1 2,3,7,8-Tetrachlorodibenzofuran (TCDF) ND U 12.6 1 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 25.0 1 ND U

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units: ng/Kg

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

P604010 Blank File Name: P604007

 Data File Name:
 P604010

 Blank File Name:
 P604007

 ICAL Date:
 06/25/16

 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	11.3	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	12.6	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units:

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604010
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	104.469				0.72	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	307.804	31		25-164	0.74	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	317.820	32		24-169	0.76	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	397.717	40		24-185	1.58	1.140
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	73.359			21-178	1.65	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	748.931	37		29-147	0.49	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	40.364			35-197	NA	1.021

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01

Sample Matrix: NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW15 Units: ng/Kg

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:54

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: Blank File Name: P604007 P604011 06/25/16 **ICAL Date:**

Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01

Sample Matrix: NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW15 Units: ng/Kg

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:54

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: Blank File Name: P604007 P604011 06/25/16 **ICAL Date:**

Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW15 Units:

Data File Name:

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:54

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

P604011 Blank File Name: P604007

GC Column: DB-5MSUI

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	91.065	70 1100	- V	23111165	0.79	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	318.300	32		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	314.287	31		24-169	0.79	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	365.475	37		24-185	1.58	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	63.191			21-178	1.62	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	831.108	42		29-147	0.50	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	40.286			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project:San Jacinto/150557-01.01Date Collected:NASample Matrix:NonAq LiquidDate Received:NA

Sample Name: Method Blank Units: ng/Kg

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.210gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name:P603993Blank File Name:P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	2.26	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	2.26	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	11.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** Date Received: NA NonAq Liquid

Sample Name: Units: ng/Kg Method Blank

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.210g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603993 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	2.26	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	2.26	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	11.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units:

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.210gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name:P603993Blank File Name:P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Label Community	Spike	Conc.	0/ D	0	Control	Ion	DDT
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Ų	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	880.428	44		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	825.710	41		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	826.023	41		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	787.091	39		21-178	1.59	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1489.602	37		29-147	0.51	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.000			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units: ng/Kg

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.201gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604007

Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	2.27	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	2.27	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	11.4	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units: ng/Kg

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.201gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604007

Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	2.27	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	2.27	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	11.4	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Units: Method Blank

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 2.201g **Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: P604007 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	274.895	27		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	259.869	26		24-169	0.77	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	264.348	26		24-185	1.59	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	600.493	30		29-147	0.51	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.705			35-197	NA	1.022

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Accuracy & Precision

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QA/QC Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Analyzed:06/26/16Sample Matrix:NonAq LiquidDate Extracted:05/26/16

Duplicate Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:1613BUnits:ng/KgPrep Method:MethodBasis:As Received

Analysis Lot: 504016

Lab Control Sample
EQ1600219-02
Duplicate Lab Control Sample
EQ1600219-03

		Spike			Spike		% Rec		RPD
Analyte Name	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	484	479	101	478	492	97	68-160	1	50
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	86.1	95.9	90	94.1	98.4	96	75-158	9	50
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	82.2	95.9	86	83.1	98.4	84	67-158	1	50

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.086gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604002 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	82.2		2.40	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	86.1		2.40	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	484		12.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.086gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI Blank File Name: P603993

 Data File Name:
 P604002
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	82.2		2.40	1	
Tetrachlorodibenzofurans (TCDF), Total	86.1		2.40	1	
Pentachlorodibenzofurans (PeCDF), Total	931		12.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units:

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.086gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604002

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	939.378	47		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	896.386	45		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	905.972	45		24-185	1.60	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	856.361	43		21-178	1.57	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1759.063	44		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.286			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount: Instrument Name:** E-HRMS-08 2.032g

> GC Column: DB-5MSUI Blank File Name: P603993

Data File Name: P604003 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	83.1		6.46	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	94.1		6.40	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	478		12.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount: Instrument Name:** E-HRMS-08 2.032g

GC Column: DB-5MSUI

Data File Name: P604003 Blank File Name: P603993 **ICAL Date:**

06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	83.1		6.46	1	
Tetrachlorodibenzofurans (TCDF), Total	94.1		6.40	1	
Pentachlorodibenzofurans (PeCDF), Total	919		12.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units:

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.032gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604003 **Blank File Name:** P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	761.306	38		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	729.732	36		24-169	0.83	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	847.157	42		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	815.813	41		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1517.396	38		29-147	0.51	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0			35-197	NA	

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QA/QC Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Analyzed:06/26/16Sample Matrix:NonAq LiquidDate Extracted:05/25/16

Duplicate Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Units: ng/Kg

Prep Method: Method Basis: As Received

Analysis Lot: 504351

Lab Control Sample
EQ1600220-02

Duplicate Lab Control Sample
EQ1600220-03

		Spike			Spike		% Rec		RPD
Analyte Name	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	500	498	100	482	479	101	68-160	4	50
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	97.3	99.7	98	98.4	95.7	103	75-158	1	50
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	101	99.7	101	95.1	95.7	99	67-158	6	50

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.007gInstrument Name:E-HRMS-08

P604016 Blank File Name: P604007

 Data File Name:
 P604016
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	101		2.49	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	97.3		2.49	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	500		12.5	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 2.007g**Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604016 Blank File Name: P604007 **ICAL Date:** 06/25/16

Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	101		2.49	1	
Tetrachlorodibenzofurans (TCDF), Total	97.3		2.49	1	
Pentachlorodibenzofurans (PeCDF), Total	982		12.5	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample **Units:**

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 2.007g**Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: P604016 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	307.817	31		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	296.673	30		24-169	0.78	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	335.135	34		24-185	1.57	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	772.331	39		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.618			35-197	NA	1.022

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project:San Jacinto/150557-01.01Date Collected:NASample Matrix:NonAq LiquidDate Received:NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 19:48

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.089gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI
Blank File Name: P604007

 Data File Name:
 P604017

 ICAL Date:
 06/25/16

 Blank File Name:
 P604007

 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	95.1		4.52	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	98.4		6.79	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	482		12.0	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 19:48

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:2.089gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI Blank File Name: P604007

 Data File Name:
 P604017

 ICAL Date:
 06/25/16

 Blank File Name:
 P604007

 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution
Analyte Name	Result	Q	MRL	Factor
Tetrachlorodibenzo-p-dioxins (TCDD), Total	95.1		4.52	1
Tetrachlorodibenzofurans (TCDF), Total	98.4		6.79	1
Pentachlorodibenzofurans (PeCDF), Total	937		12.0	1

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units:

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 19:48

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.089gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604017

Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	323.556	32		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	303.363	30		24-169	0.76	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	368.296	37		24-185	1.55	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	742.863	37		29-147	0.50	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.975			35-197	NA	1.021

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Chromatograms and Selected Ion Monitoring

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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 03162016SJGW1

Run #10 Filename P603995 Samp: 1 Inj: 1 Acquired: 25-JUN-16 21:26:14 Processed: 1-JUL-16 12:44:37 Sample ID: E1600326-001

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
	Unk Unk	2,3,7,8-TCDF 2,3,4,7,8-PeCDF		*	* *	£	no no	no no	0.957
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.572e+04	4.459e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	5.256e+04	3.295e+04	1.60	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.946e+04	3.134e+04	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.342e+04	6.370e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
			P					2	9
2000 20	IS	13C-2,3,7,8-TCDD	Anna caraca managaman	2.700e+04	3.426e+04	0.79	_	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:22	3.167e+04	3.973e+04	0.80	yes	no	
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.827e+04	3.144e+04	1.22	yes	no	c=:
35	C/Up	37C1-2,3,7,8-TCDD	28:59	5.286e+01	,			no	0.945

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Houston, TX 77099

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. 03162016SJGW1

Run #10 Filename P603995 Samp: 1 Inj: 1 Acquired: 25-JUN-16 21:26:14

Processed: 1-JUL-16 12:44:37 LAB. ID: E1600326-001

Name	Signal	1	Noise	1	s/N	Rat.1 Signal	2	Noise	2	s/N	Rat.	2

1	2,3,7,8-TCDF	*	1.03e+03	*	*	3.17e+03	*
3	2,3,4,7,8-PeCDF	*	4.68e+02	*	*	1.59e+03	*
11	2,3,7,8-TCDD	*	1.49e+03	*	*	1.21e+03	*
18	13C-2,3,7,8-TCDF	6.34e+06	5.38e+03	1.2e+03	7.87e+06	3.56e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.81e+06	7.67e+03	1.3e+03	6.16e+06	5.92e+03	1.0e+03
20	13C-2,3,4,7,8-PeCDF	9.80e+06	7.67e+03	1.3e+03	6.18e+06	5.92e+03	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	6.64e+06	1.29e+03	5.1e+03	1.26e+07	1.56e+03	8.0e+03
26	13C-1,2,3,4-TCDF	*	5.38e+03	*	*	3.56e+03	*
27	13C-2,3,7,8-TCDD	5.16e+06	7.11e+03	7.3e+02	6.44e+06	3.90e+03	1.7e+03
33	13C-1,2,3,4-TCDD	5.89e+06	7.11e+03	8.3e+02	7.40e+06	3.90e+03	1.9e + 03
34	13C-1,2,3,7,8,9-HxCDD	7.72e+06	1.80e+03	4.3e+03	6.16e+06	1.46e+03	4.2e+03
35	37C1-2,3,7,8-TCDD	1.21e+04	1.92e+03	6.3e+00	3.		

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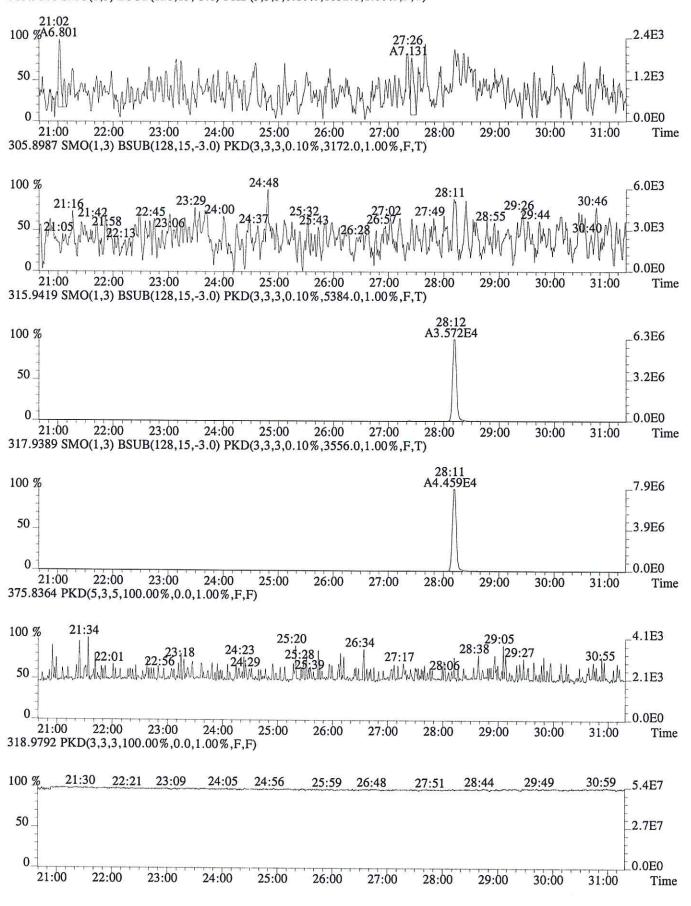
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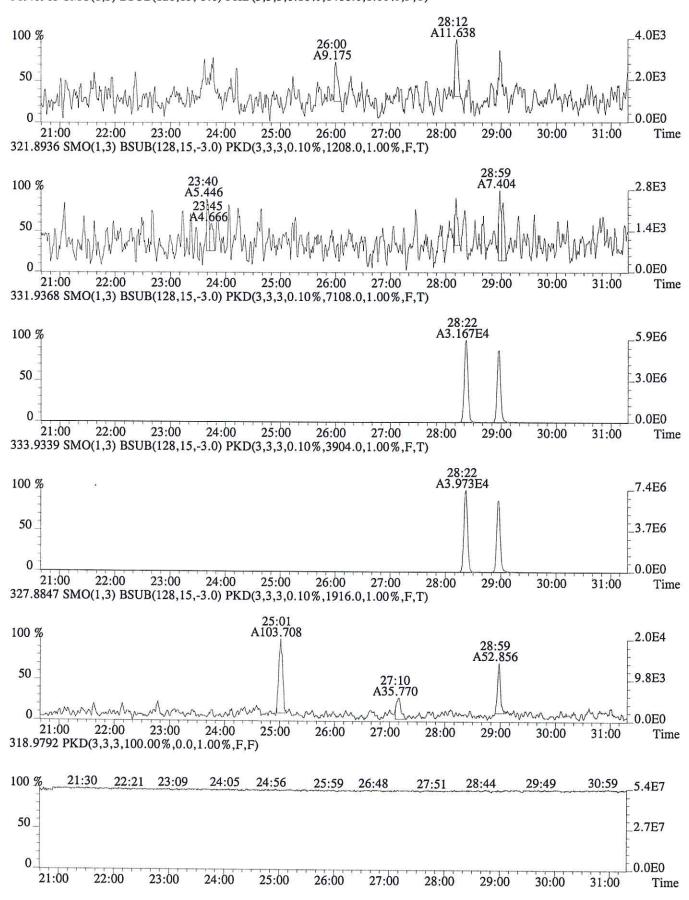
E1600326 74 of 326

File:P603995 #1-756 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)

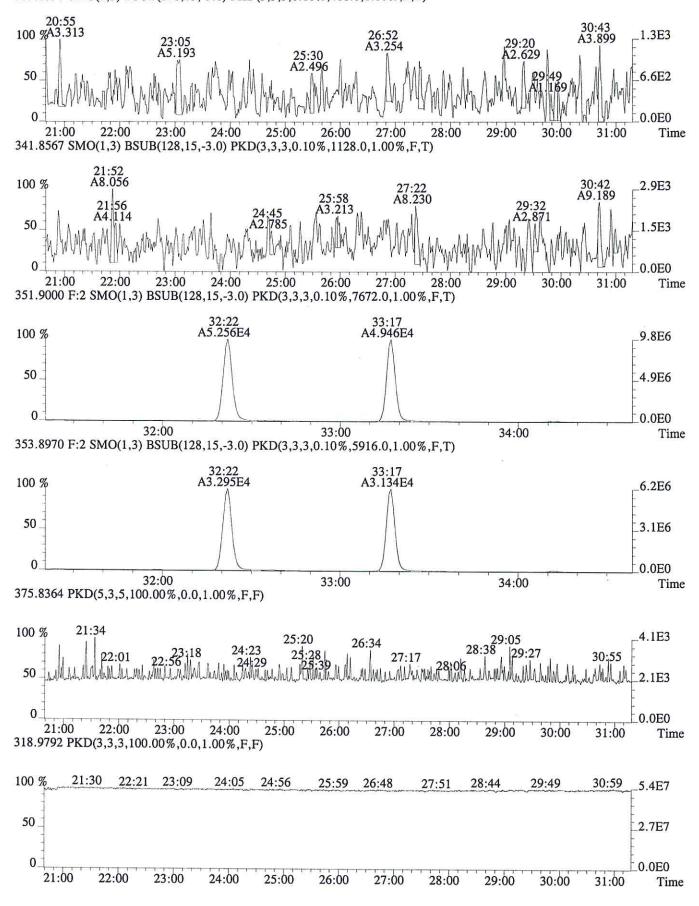


E1600326 75 of 326

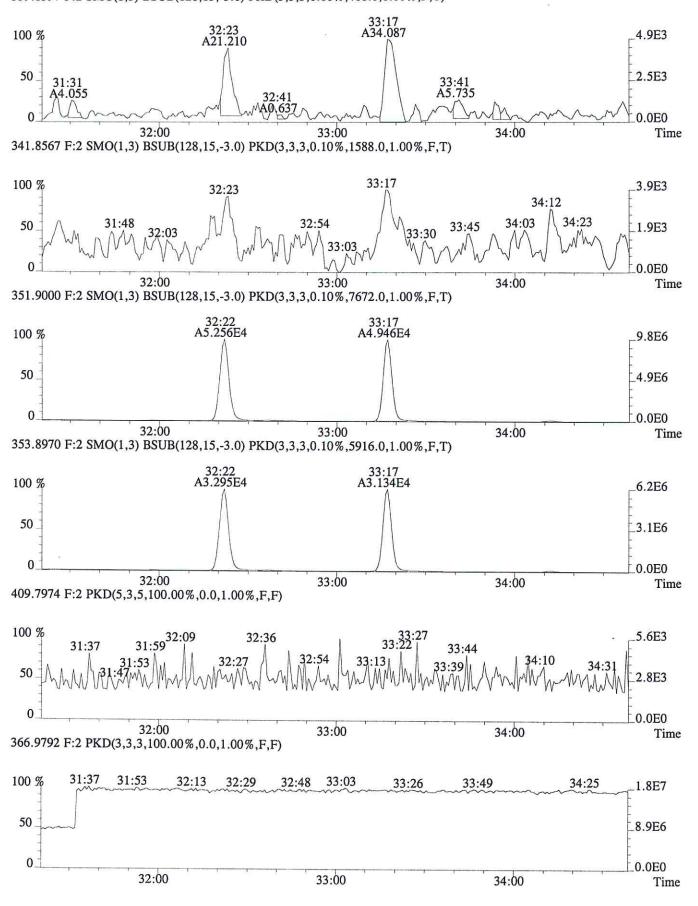
File:P603995 #1-756 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



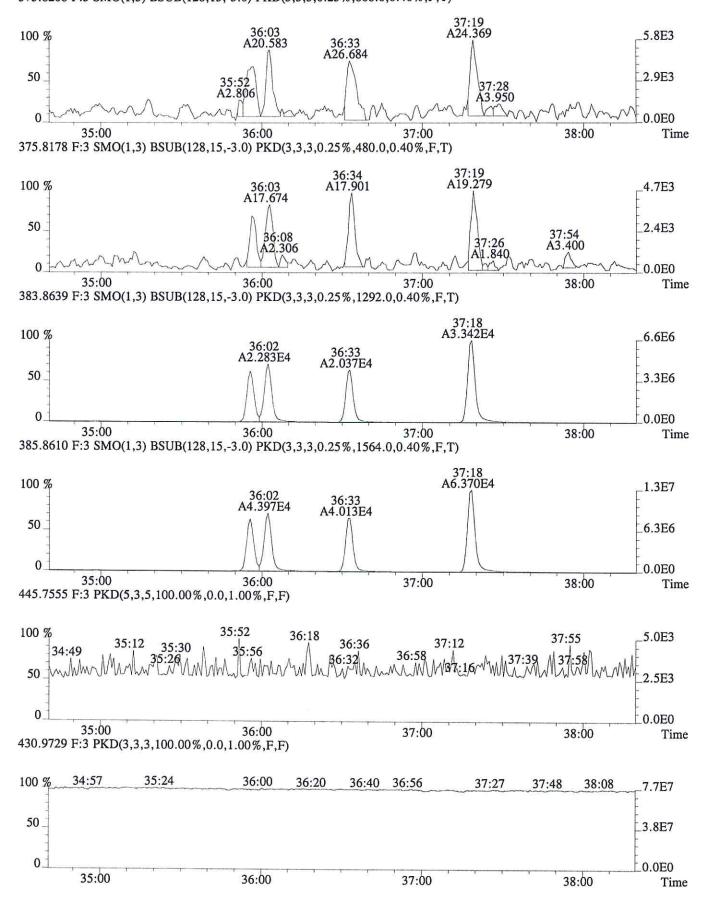
File:P603995 #1-756 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,T)



File:P603995 #1-298 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,T)

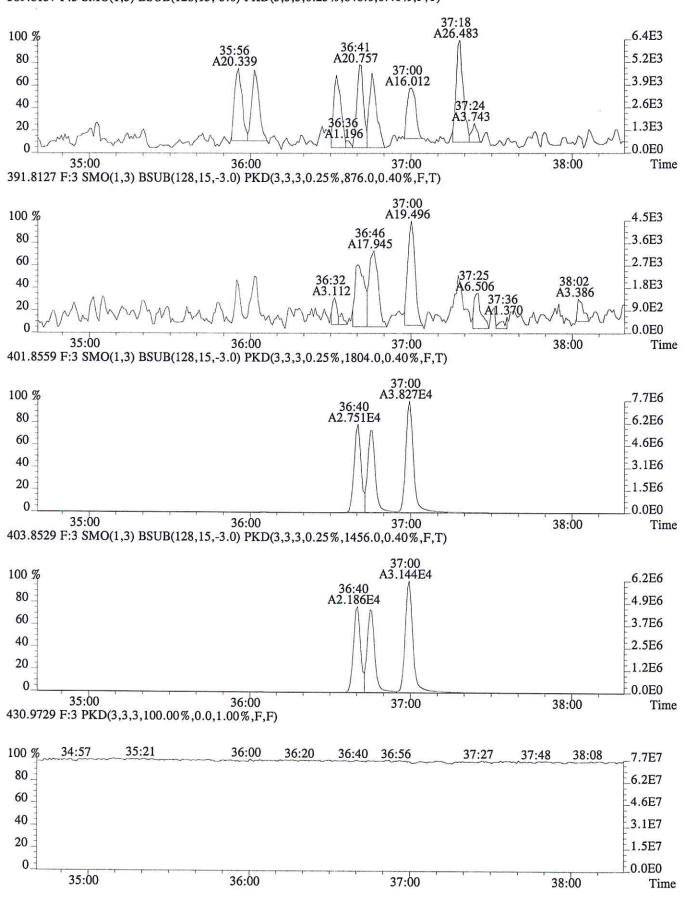


File:P603995 #1-329 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



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File:P603995 #1-329 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)

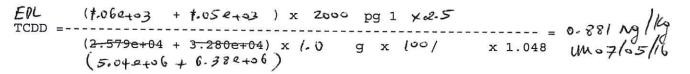


ALS ENVIRONMENTAL Sample Response Summary CLIENT ID.

04072016SJGW1

Run #11 Filename P603996 Samp: 1 Inj: 1 Acquired: 25-JUN-16 22:15:14 Processed: 1-JUL-16 12:44:38 Sample ID: E1600326-002

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
	Unk	2,3,7,8-TCDF		*	*	1	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.449e+04	4.335e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	5.378e+04	3.407e+04	1.58	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	5.126e+04	3.240e+04	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.763e+04	7.189e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
27	IS	13C-2,3,7,8-TCDD	28:58	2.579e+04	3.280e+04	0.79	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	3.190e+04	4.008e+04	0.80	yes	no	Î
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.861e+04	3.095e+04	1.25	yes	no	Ĭ
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	5.302e+01			N=	no	0.945



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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. 04072016SJGW1

Run #11 Filename P603996 Samp: 1 Inj: 1 Acquired: 25-JUN-16 22:15:14 Processed: 1-JUL-16 12:44:38 LAB. ID: E1600326-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	9.24e+02	*	*	2.86e+03	*
3	2,3,4,7,8-PeCDF	*	5.48e+02	*	*	1.51e+03	*
11	2,3,7,8-TCDD	*	1.06e+03	*	*	1.05e+03	*
18	13C-2,3,7,8-TCDF	6.37e+06	4.86e+03	1.3e+03	7.93e+06	3.53e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	1.00e+07	7.46e+03	1.3e+03	6.36e+06	5.76e+03	1.1e+03
20	13C-2,3,4,7,8-PeCDF	1.02e+07	7.46e+03	1.4e+03	6.40e+06	5.76e+03	1.1e+03
24	13C-1,2,3,7,8,9-HxCDF	7.57e+06	9.76e+02	7.8e+03	1.45e+07	1.98e+03	7.3e+03
26	13C-1,2,3,4-TCDF	*	4.86e+03	*	*	3.53e+03	*
27	13C-2,3,7,8-TCDD	5.04e+06	8.21e+03	6.1e+02	6.38e+06	3.72e+03	1.7e+03
33	13C-1,2,3,4-TCDD	6.10e+06	8.21e+03	7.4e+02	7.59e+06	3.72e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	7.81e+06	2.16e+03	3.6e+03	6.30e+06	1.68e+03	3.7e+03
35	37Cl-2,3,7,8-TCDD	1.23e+04	1.88e+03	6.5e+00			¥/

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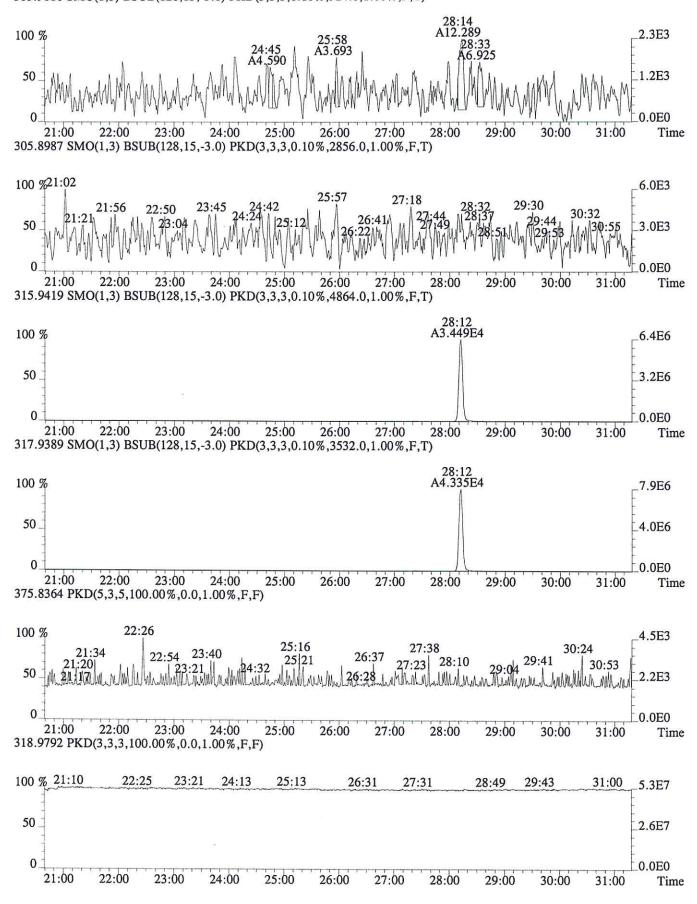
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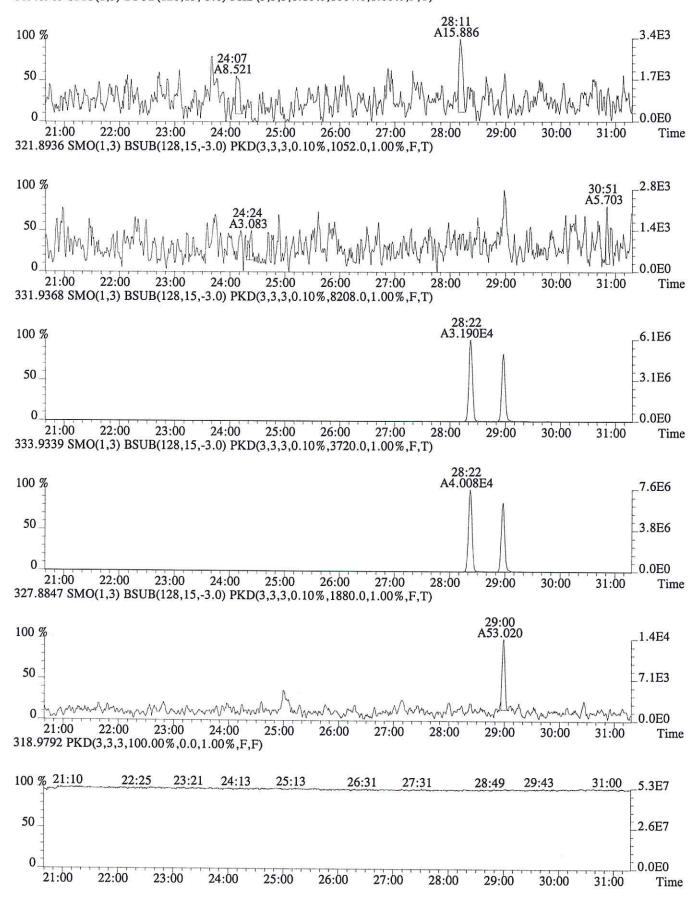
E1600326 82 of 326

File:P603996 #1-756 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



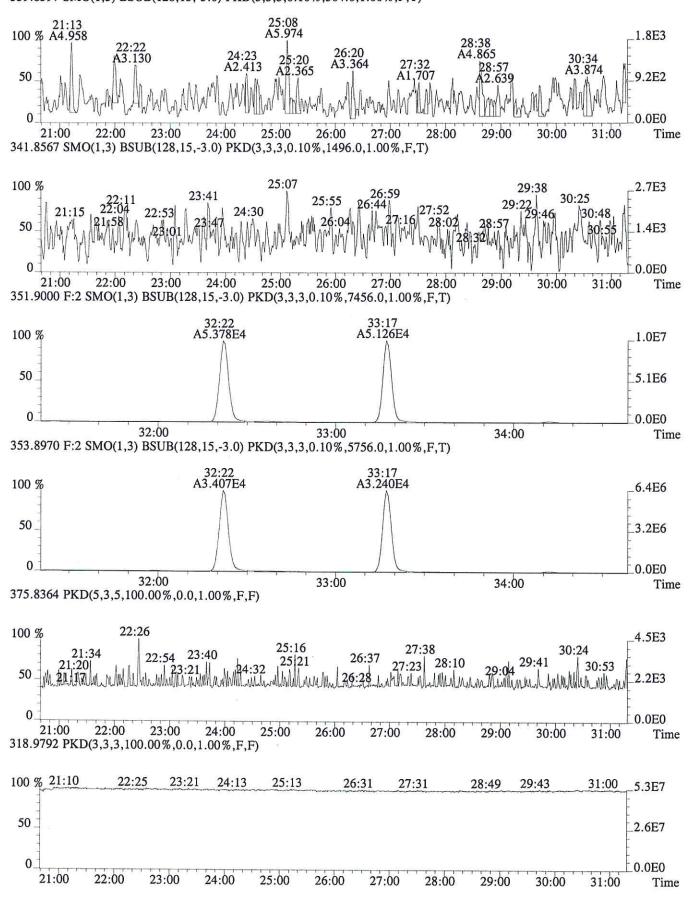
E1600326 83 of 326

File:P603996 #1-756 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



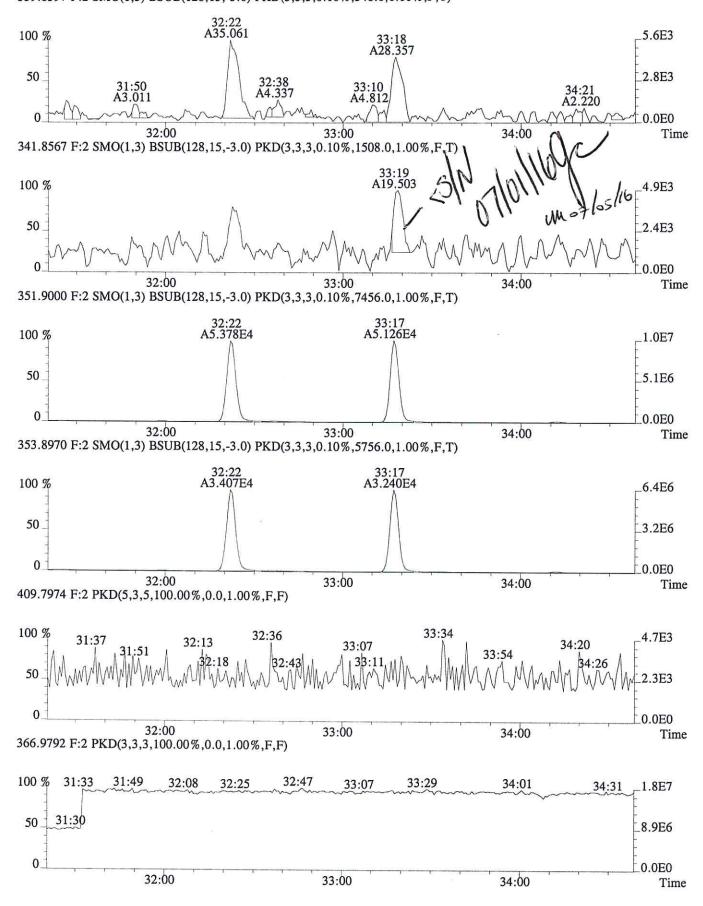
E1600326 84 of 326

File:P603996 #1-756 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)

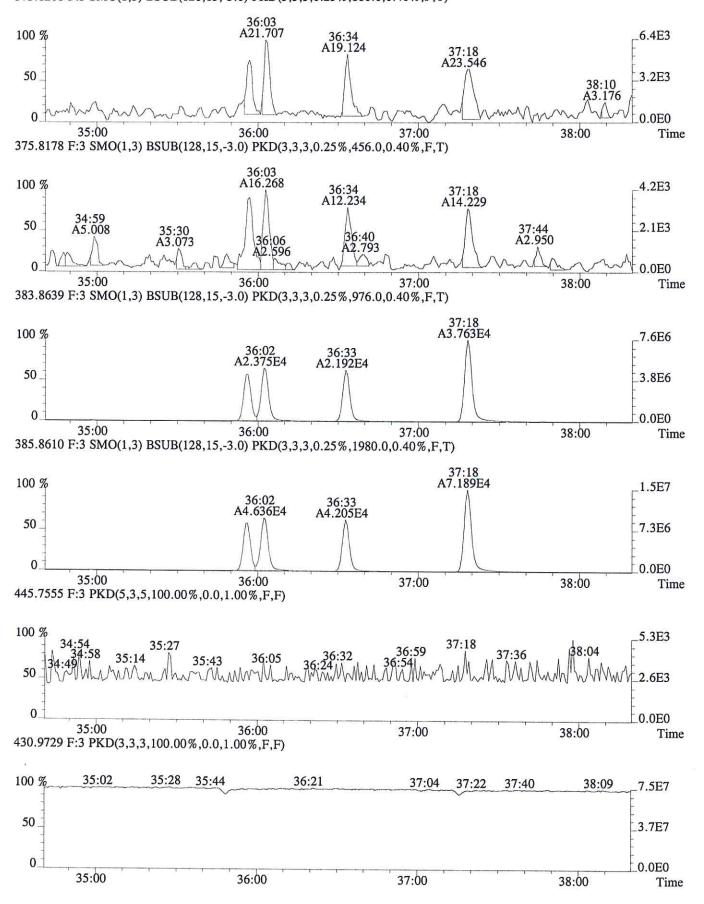


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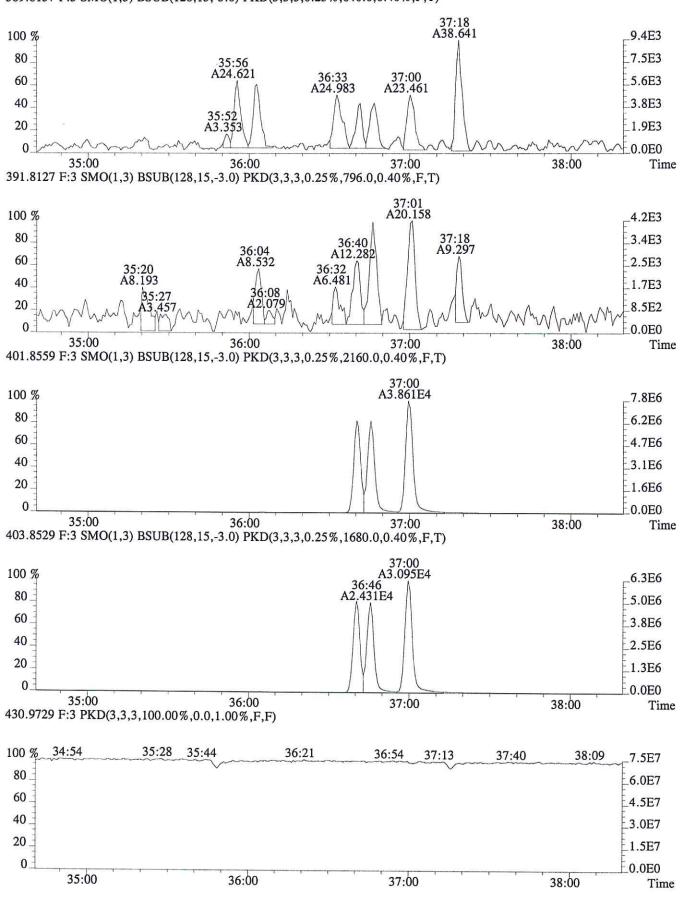
File:P603996 #1-298 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



File:P603996 #1-329 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,T)



File:P603996 #1-329 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary CLIENT ID.

04072016SJGW2

Run #12 Filename P603997 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:04:16 Processed: 1-JUL-16 12:44:38 Sample ID: E1600326-003

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
3	IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	NotFnd NotFnd 28:12 32:22 33:17 37:18	* 3.231e+04 4.970e+04 4.786e+04 3.480e+04 *	* 4.018e+04 3.103e+04 2.994e+04 6.727e+04 *	* 0.80 1.60 1.60 0.52	yes yes	no	0.957 0.929 1.048 1.283 1.381 1.371 0.875
34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:22 37:00	2.423e+04 3.052e+04 3.787e+04 9.640e+01	3.062e+04 3.826e+04 2.955e+04	0.79 0.80 1.28	yes	no no no no	0.929 - - 0.945

TCDD = (4.30.2403 + 4.122403) x 2000 pg 1 x 2.5 TCDD = (2.423e+04 + 3.062e+04) x 1.0 g x (00/ x 1.048 W 07/05/16 (4-7/e+06 + 5.97e+06)

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

04072016SJGW2

Run #12 Filename P603997 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:04:16 Processed: 1-JUL-16 12:44:38 LAB. ID: E1600326-003

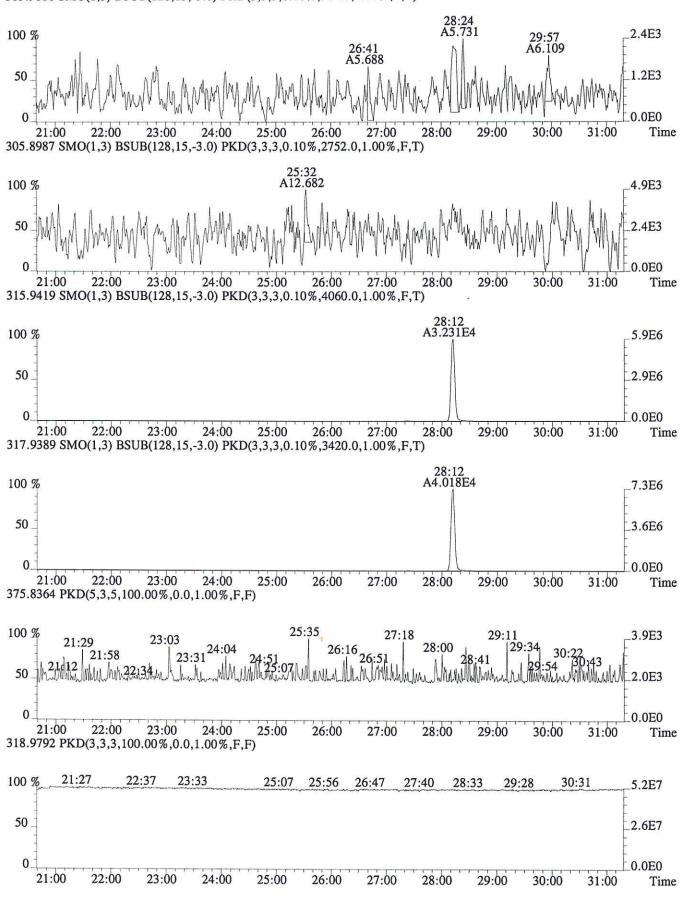
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	9.04e+02	*	*	2.75e+03	*
3	2,3,4,7,8-PeCDF	*	7.40e+02	*	*	1.69e+03	*
11	2,3,7,8-TCDD	*	1.30e+03	*	*	1.12e+03	*
18	13C-2,3,7,8-TCDF	5.85e+06	4.06e+03	1.4e+03	7.29e+06	3.42e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	9.24e+06	5.38e+03	1.7e+03	5.80e+06	4.14e+03	1.4e+03
20	13C-2,3,4,7,8-PeCDF	9.55e+06	5.38e+03	1.8e+03	5.99e+06	4.14e+03	1.4e+03
24	13C-1,2,3,7,8,9-HxCDF	7.16e+06	9.24e+02	7.7e+03	1.38e+07	1.39e+03	9.9e+03
26	13C-1,2,3,4-TCDF	*	4.06e+03	*	*	3.42e+03	*
						•	
27	13C-2,3,7,8-TCDD	4.71e+06	7.71e+03	6.1e+02	5.97e+06	4.52e+03	1.3e+03
33	13C-1,2,3,4-TCDD	5.80e+06	7.71e+03	7.5e+02	7.27e+06	4.52e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	7.71e+06	2.28e+03	3.4e+03	6.03e+06	1.51e+03	4.0e+03
35	37C1-2,3,7,8-TCDD	1.99e+04	1.77e+03	1.1e+01			

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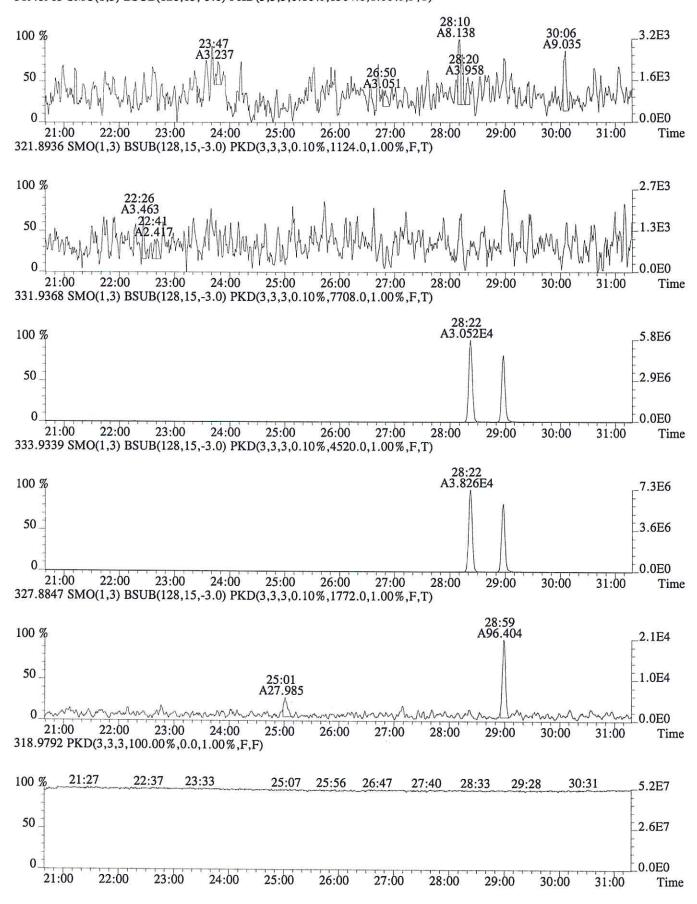
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File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)

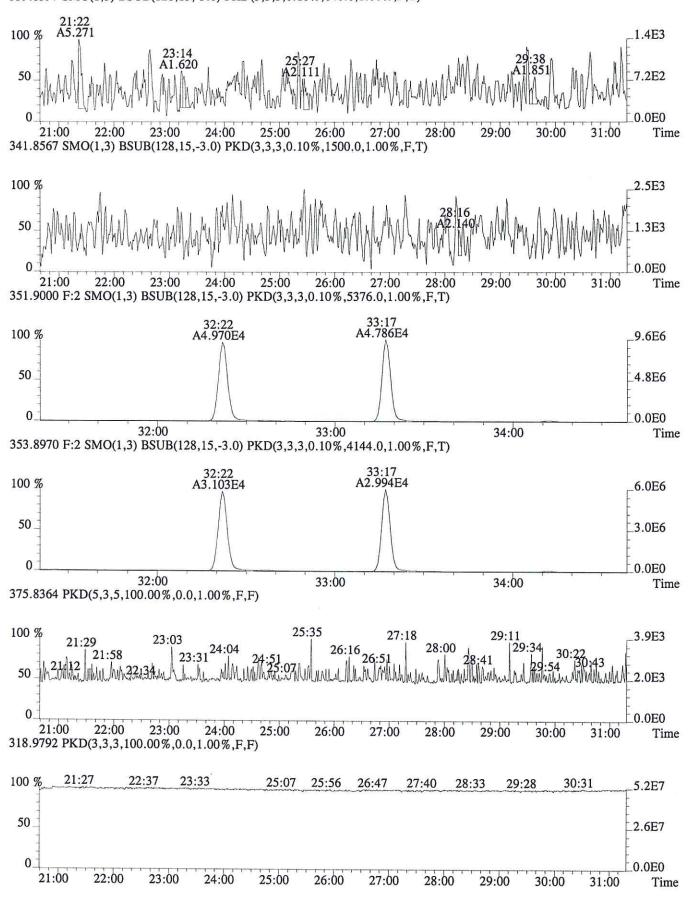


File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)

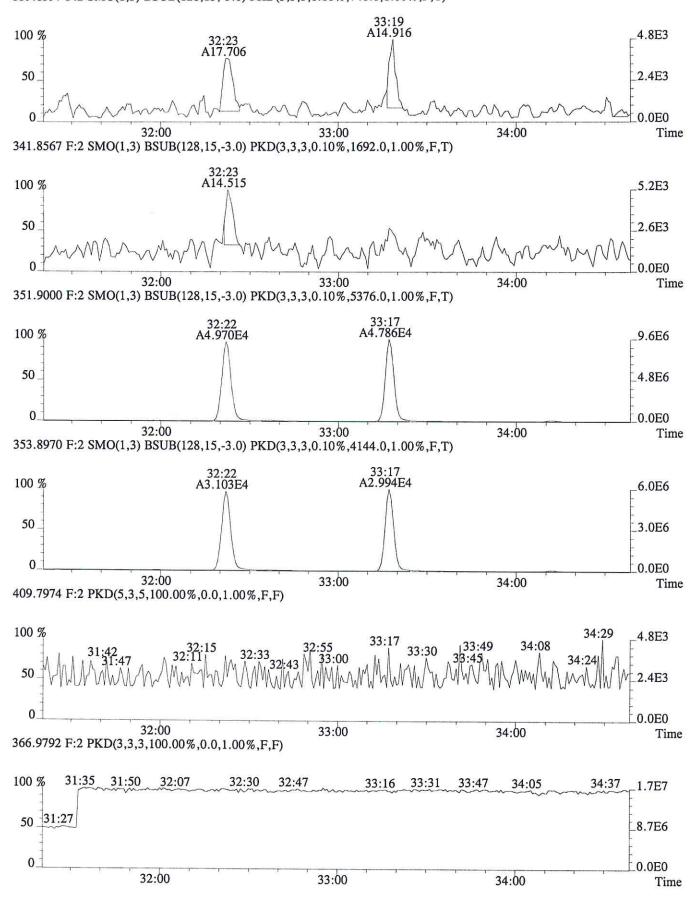


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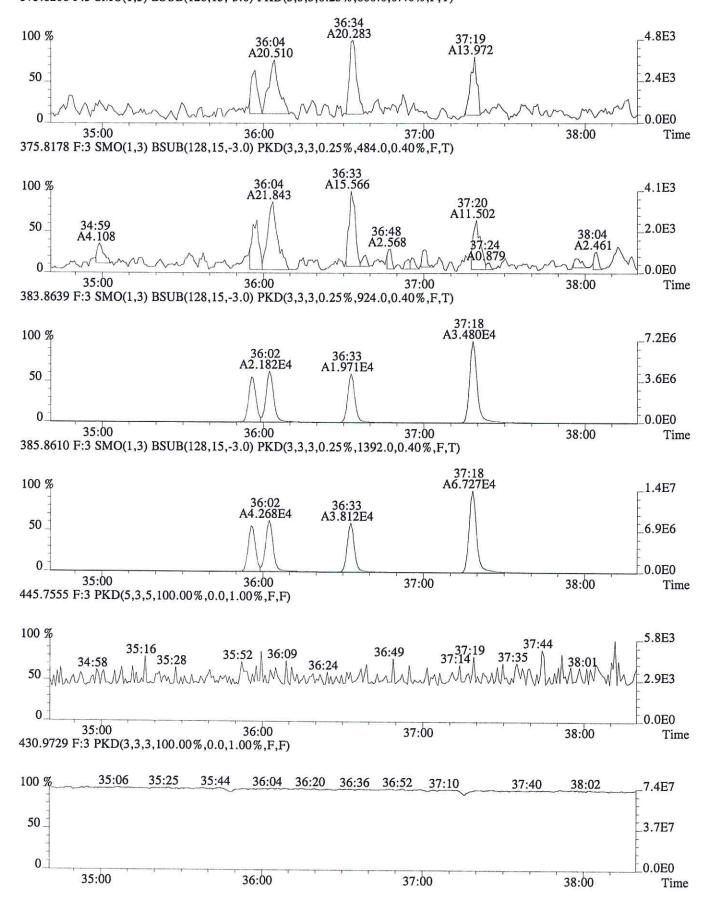
File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



File:P603997 #1-298 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)

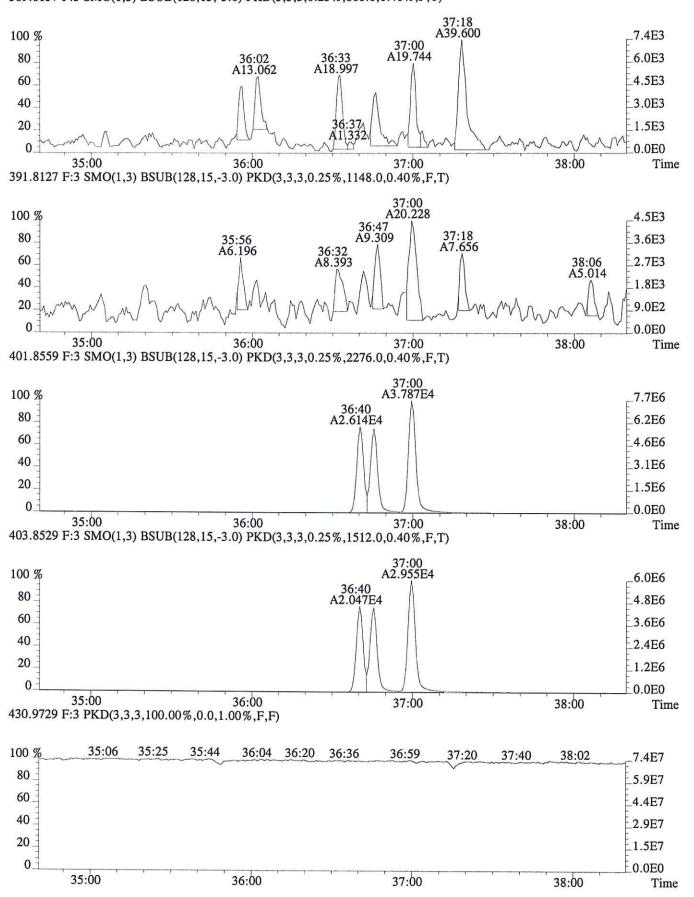


File:P603997 #1-329 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



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File:P603997 #1-329 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW10

Run #13 Filename P603998 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:53:17 Processed: 1-JUL-16 13:08:58 Sample ID: E1600326-004

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	1.359e+04	1.695e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	2.408e+04	1.495e+04	1.61	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.256e+03	2.706e+03	1.57	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	1.685e+04	3.265e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:58	3.955e+03	5.107e+03	0.77	yes	yes	1.325
27	IS	13C-2,3,7,8-TCDD	28:58	9.323e+03	1.181e+04	0.79	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	2.924e+04	3.647e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.441e+04	2.686e+04	1.28	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	29:00	2.822e+03				no	0.945

EPL TCDD =-	(f.252+03	+	f.40e+03)	100 x 200	, I	og 1	× 2.5		1.59 Nalkg
1000	(9 .323e+0 3 (1.75e+06	+	1.181e+04) 2.212+06)	3	x (.0	g	x (00/	x 1.048	1-59 mg/kg

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 04072016SJGW10

2.89e+03

2.3e + 03

6.68e+06

3.1e+03 | 5.66e+06 | 1.40e+03 | 4.1e+03

Acquired: 25-JUN-16 23:53:17 Run #13 Filename P603998 Samp: 1 Inj: 1 Processed: 1-JUL-16 13:08:58 LAB. ID: E1600326-004 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF 9.20e+02 3.03e+03 3 2,3,4,7,8-PeCDF 9.12e+02 1.63e+03 2,3,7,8-TCDD| * 11 1.25e+03 1.40e+03 13C-2,3,7,8-TCDF 18 2.42e+06 4.94e+03 4.9e+02 3.02e+06 3.40e+03 8.9e + 0219 13C-1,2,3,7,8-PeCDF 2.63e+03 4.49e+06| 3.21e+03| 1.4e+03 | 2.78e+06 | 1.1e + 0320 13C-2,3,4,7,8-PeCDF 8.20e+05 3.21e+03 2.6e+02 2.63e+03 5.18e+05 2.0e + 0224 13C-1,2,3,7,8,9-HxCDF 3.31e+06 1.14e+03 | 2.9e+03 | 6.41e+06 1.91e+03 3.4e + 0326 13C-1,2,3,4-TCDF| 6.63e+05| 4.94e+03| 1.3e+02| 8.43e+05| 3.40e+03| 2.5e+02 27 13C-2,3,7,8-TCDD 1.75e+06 | 6.93e+03 | 2.5e+02 2.21e+06 | 2.89e+03 | 7.7e + 0233 13C-1,2,3,4-TCDD 5.39e+06 | 6.93e+03 | 7.8e+02 |

2.29e+03

7.10e+06

37Cl-2,3,7,8-TCDD| 5.35e+05| 1.36e+03| 3.9e+02

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13C-1,2,3,7,8,9-HxCDD

34

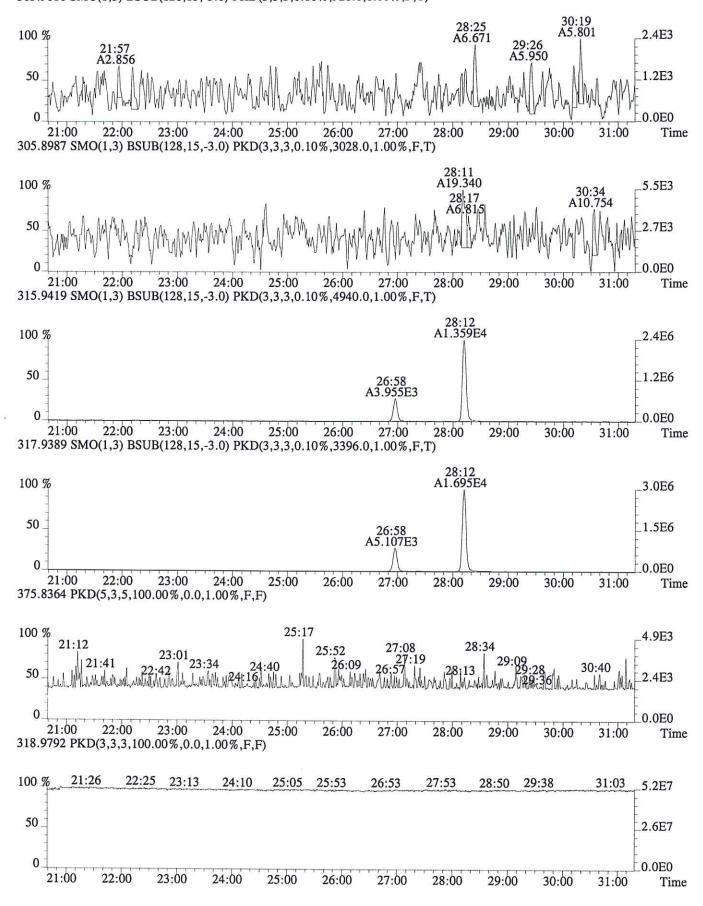
35

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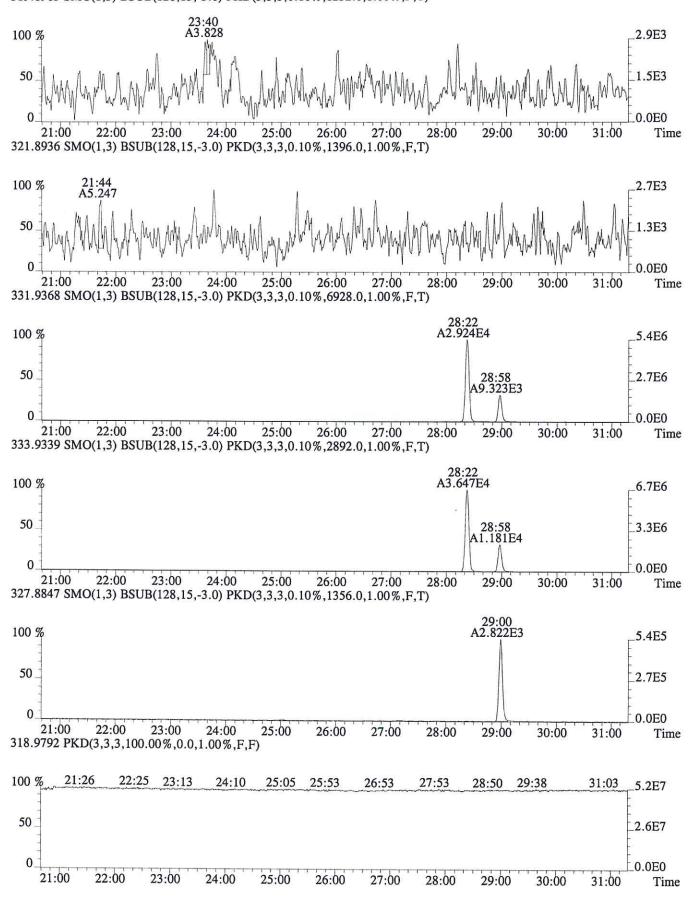
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E1600326 98 of 326 File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)



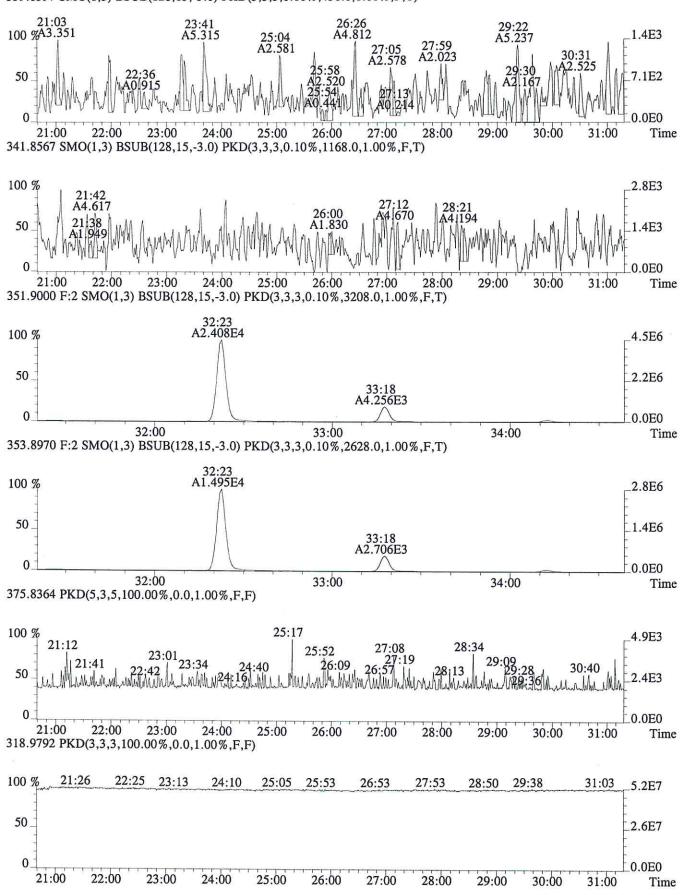
E1600326 99 of 326

File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,T)

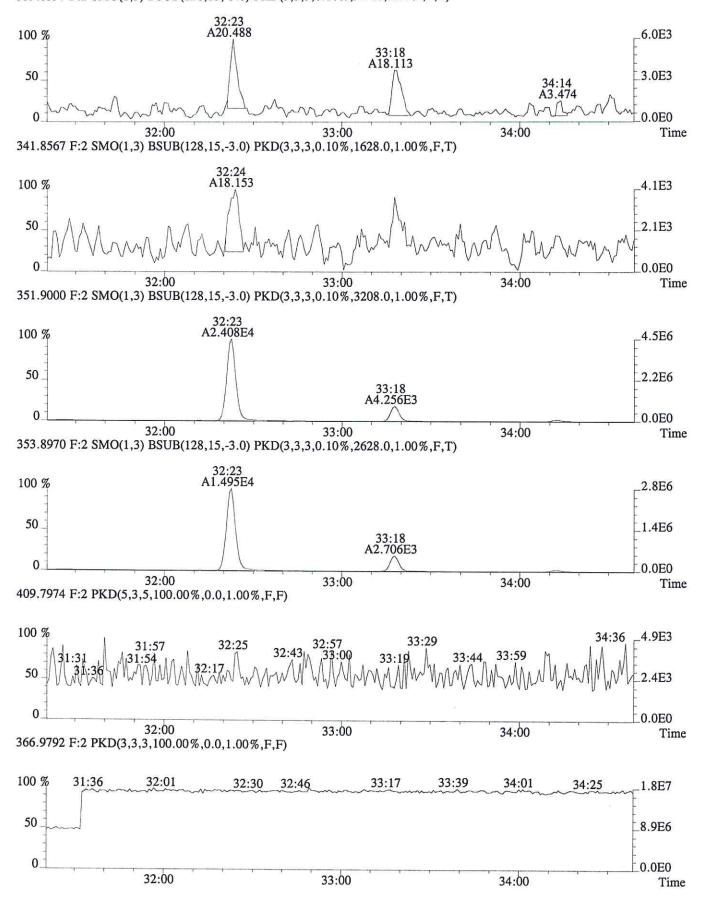


E1600326 100 of 326

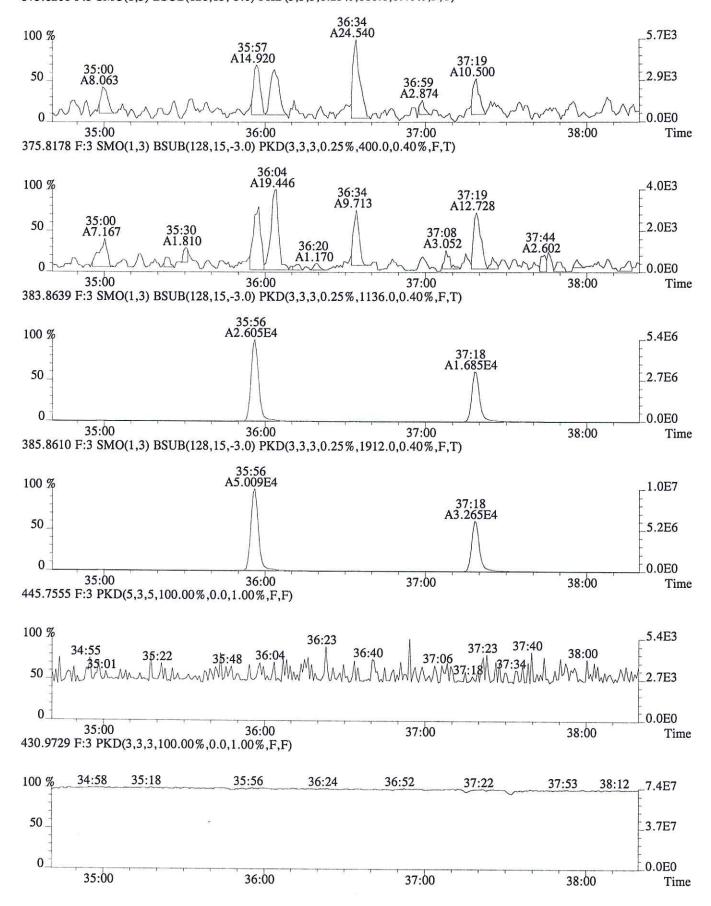
File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,T)



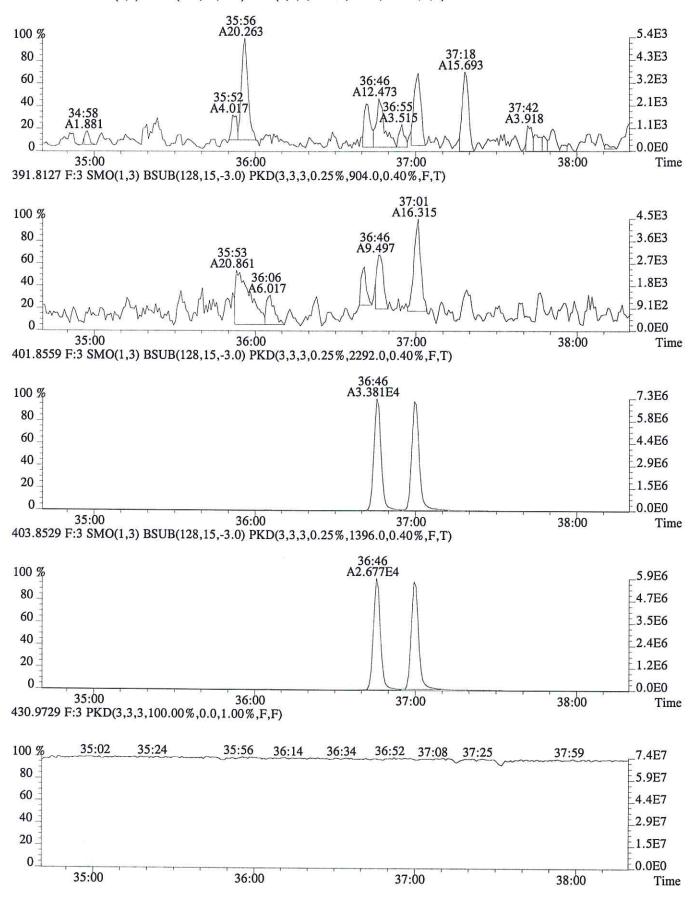
File:P603998 #1-298 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



File:P603998 #1-329 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,T)



File:P603998 #1-329 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW11

Run #14 Filename P603999 Samp: 1 Inj: 1 Acquired: 26-JUN-16 00:42:18 Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-005

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk Unk IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	NotFnd NotFnd 28:12 32:22 33:17 37:18	* 1.162e+04 2.080e+04 3.797e+03 1.588e+04 3.516e+03	* 1.459e+04 1.302e+04 2.344e+03 3.078e+04 4.443e+03	* no * no * no 0.80 yes 1.60 yes 1.62 yes 0.52 yes 0.79 yes	no no no no no no no no yes	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:22 37:00	8.145e+03 2.967e+04 3.444e+04 2.498e+03	1.038e+04 3.712e+04 2.709e+04	0.78 yes 0.80 yes 1.27 yes	no no no no	0.929 - - 0.945

TCDD	(4,02e+03	+	t.50 e+03)	x	1000	p	g :	L ;	+2.5	,	707 Ng/Kg
	(8 .145 e+03 (1.552+06	+	1.038e+04))	x	1-0	g	x	l"	0 /	x 1.048	un 07/06/16

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CLIENT ID. 04072016SJGW11

Run #14 Filename P603999 Samp: 1 Inj: 1 Acquired: 26-JUN-16 00:42:18

Processed: 1-JUL-16 13:08:59 LAB. ID: E1600326-005

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	1.06e+03	*	*	3.26e+03	*
3	2,3,4,7,8-PeCDF	*	7.08e+02	*	*	1.71e+03	*
11	2,3,7,8-TCDD	*	1.02e+03	*	*	1.50e+03	*
18	13C-2,3,7,8-TCDF	2.08e+06	4.30e+03	4.9e+02	2.61e+06	2.58e+03	1.0e+03
19	13C-1,2,3,7,8-PeCDF	3.85e+06	3.39e+03	1.1e+03	2.42e+06	1.28e+03	1.9e+03
20	13C-2,3,4,7,8-PeCDF	7.09e+05	3.39e+03	2.1e+02	4.57e+05	1.28e+03	3.6e+02
24	13C-1,2,3,7,8,9-HxCDF	3.15e+06	8.80e+02	3.6e+03	6.03e+06	2.00e+03	3.0e+03
26	13C-1,2,3,4-TCDF	5.92e+05	4.30e+03	1.4e+02	7.52e+05	2.58e+03	2.9e+02
27	13C-2,3,7,8-TCDD	1.55e+06	7.41e+03	2.1e+02	1.97e+06	3.82e+03	5.2e+02
33	13C-1,2,3,4-TCDD	5.65e+06	7.41e+03	7.6e+02	7.02e+06	3.82e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	7.28e+06	1.40e+03	5.2e+03	5.70e+06	1.37e+03	4.2e+03
35	37Cl-2,3,7,8-TCDD	4.57e+05	2.10e+03	2.2e+02			

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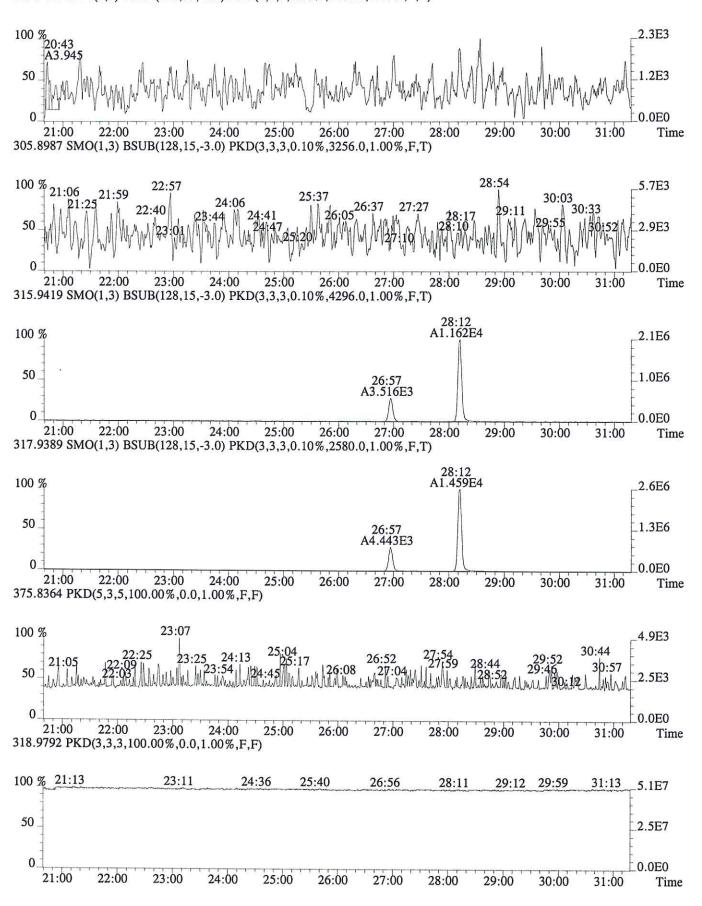
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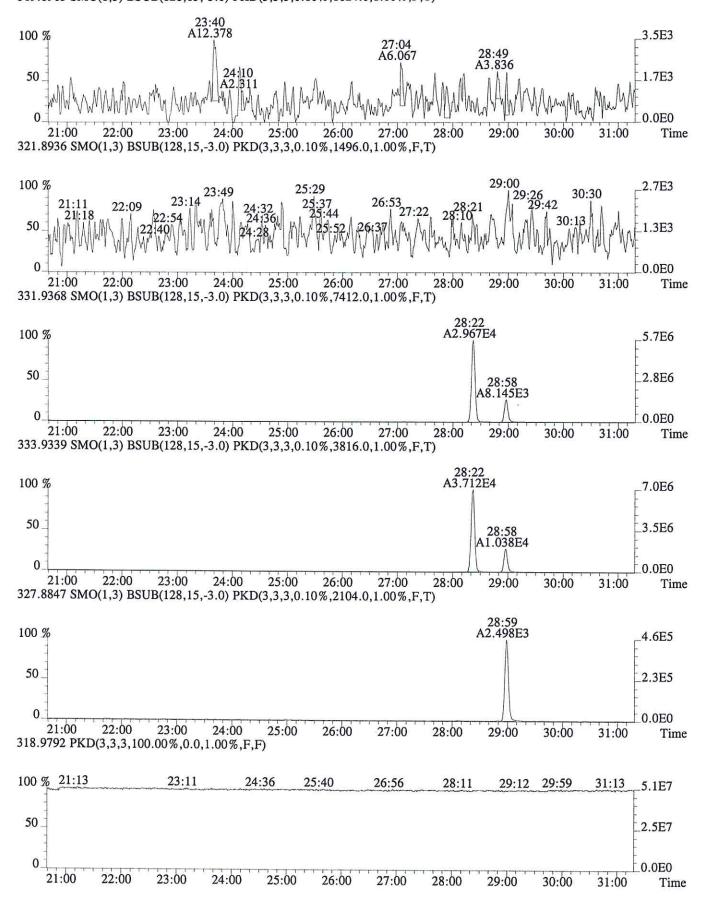
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File:P603999 #1-756 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)

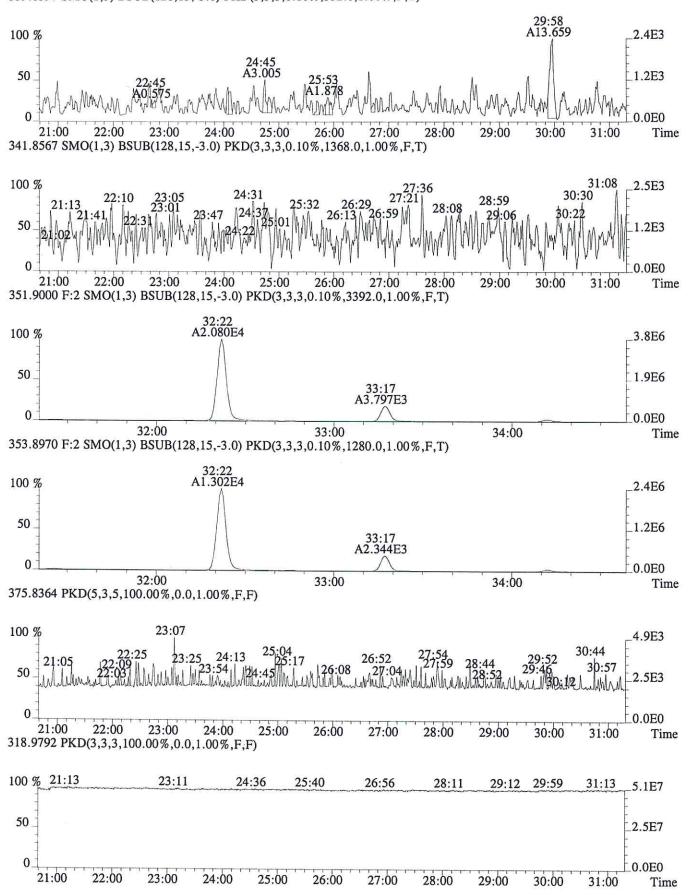


File:P603999 #1-756 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)

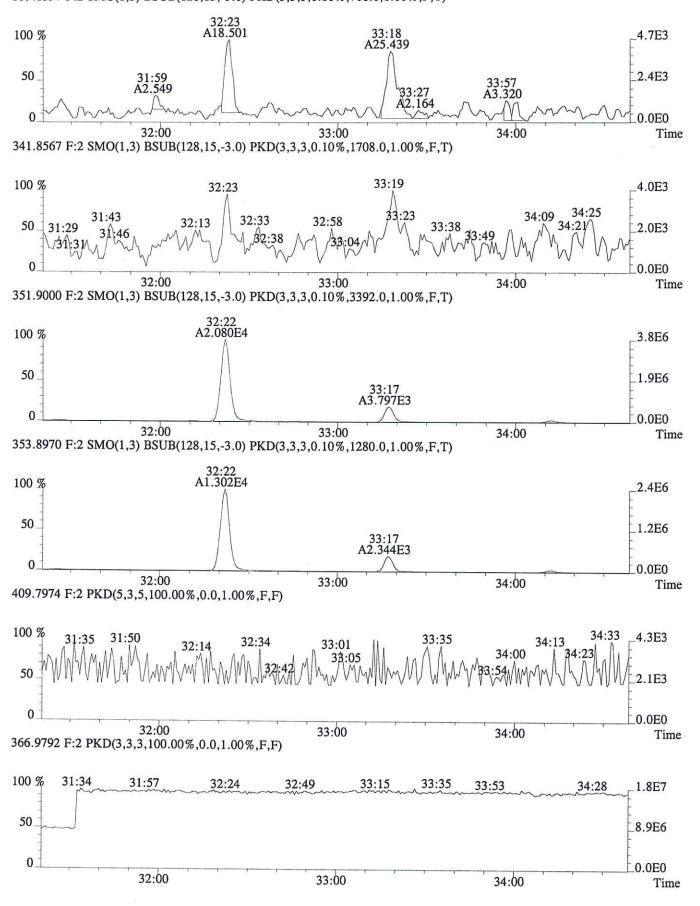


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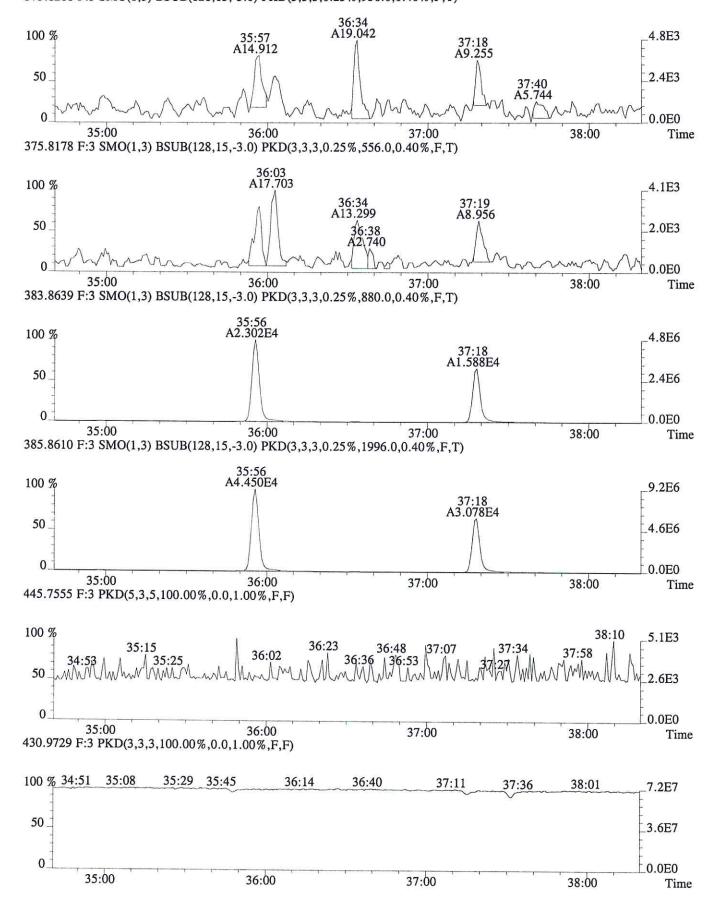
File:P603999 #1-756 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



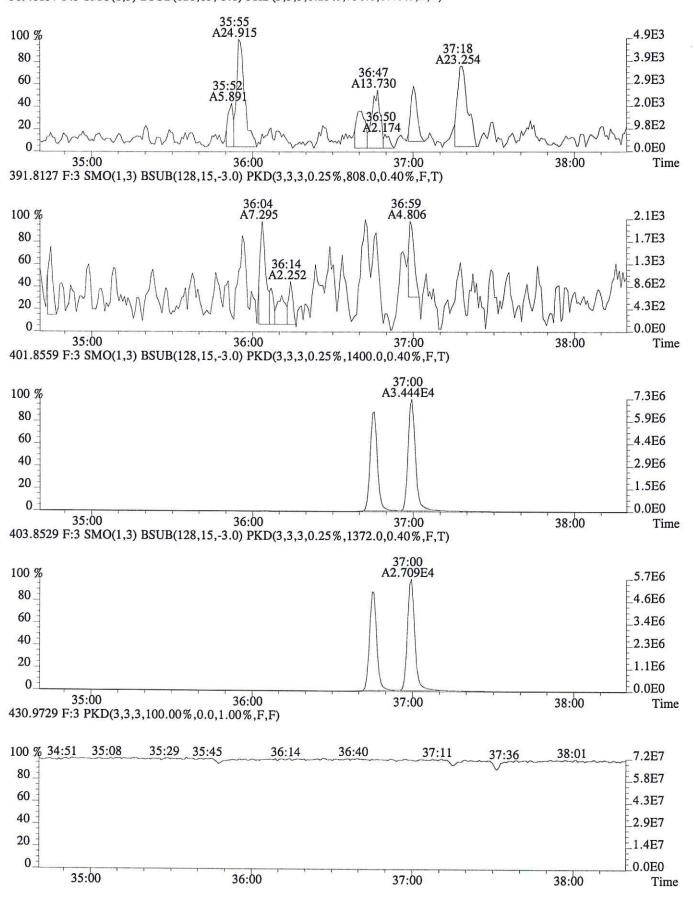
File:P603999 #1-298 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



File:P603999 #1-329 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



File:P603999 #1-329 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)

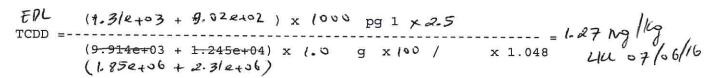


ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW12

Run #15 Filename P604000 Samp: 1 Inj: 1 Acquired: 26-JUN-16 01:31:21 Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-006

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18	IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	NotFnd NotFnd 28:12 32:22 33:17 37:18	* * 1.464e+04 2.381e+04 4.134e+03 1.612e+04 4.304e+03	* 1.850e+04 1.485e+04 2.647e+03 3.101e+04 5.371e+03	* no * no * no 0.79 yes 1.60 yes 1.56 yes 0.52 yes 0.80 yes	no no no no no no no no yes	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:22 37:00	9.914e+03 2.999e+04 3.547e+04 2.865e+03	1.245e+04 3.783e+04 2.829e+04	0.80 yes 0.79 yes 1.25 yes	no no no no	0.929 - - 0.945



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CLIENT ID. 04072016SJGW12

Run #15 Filename P604000 Samp: 1 Inj: 1 Acquired: 26-JUN-16 01:31:21

Processed: 1-JUL-16 13:08:59 LAB. ID: E1600326-006

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2			
1	2,3,7,8-TCDF	*	9.28e+02	*	*	2.97e+03	*			
3	2,3,4,7,8-PeCDF	*	5.40e+02	*	*	1.65e+03	*			
11	2,3,7,8-TCDD	*	1.31e+03	*	*	9.08e+02	*			
18	13C-2,3,7,8-TCDF	2.61e+06	5.25e+03	5.0e+02	3.31e+06	2.36e+03	1.4e+03			
19	13C-1,2,3,7,8-PeCDF	4.44e+06	2.59e+03	1.7e+03	2.73e+06	2.64e+03	1.0e+03			
20	13C-2,3,4,7,8-PeCDF	8.03e+05	2.59e+03	3.1e+02	5.10e+05	2.64e+03	1.9e+02			
24	13C-1,2,3,7,8,9-HxCDF	3.16e+06	5.28e+02	6.0e+03	6.11e+06	1.19e+03	5.1e+03			
26	13C-1,2,3,4-TCDF	7.10e+05	5.25e+03	1.4e+02	8.94e+05	2.36e+03	3.8e+02			
				•						
27	13C-2,3,7,8-TCDD	1.85e+06	5.22e+03	3.5e+02	2.31e+06	3.69e+03	6.3e+02			
33	13C-1,2,3,4-TCDD	5.69e+06	5.22e+03	1.1e+03	7.14e+06	3.69e+03	1.9e+03			
34	13C-1,2,3,7,8,9-HxCDD	7.13e+06	2.98e+03	2.4e+03	5.68e+06	1.38e+03	4.1e+03			
35	37Cl-2,3,7,8-TCDD	5.47e+05	1.45e+03	3.8e+02		•				

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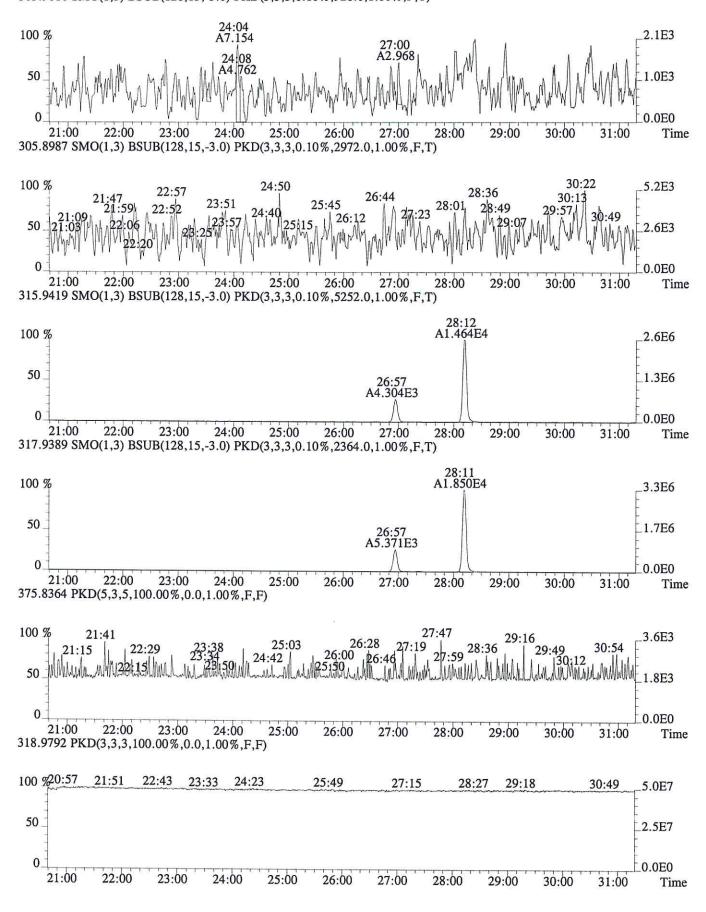
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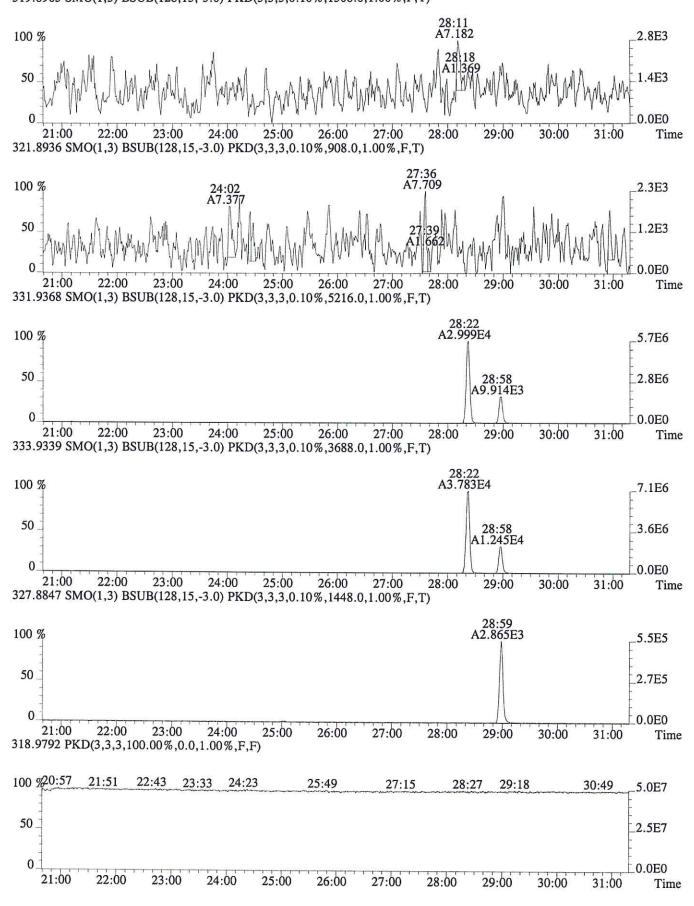
E1600326 114 of 326

File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,T)



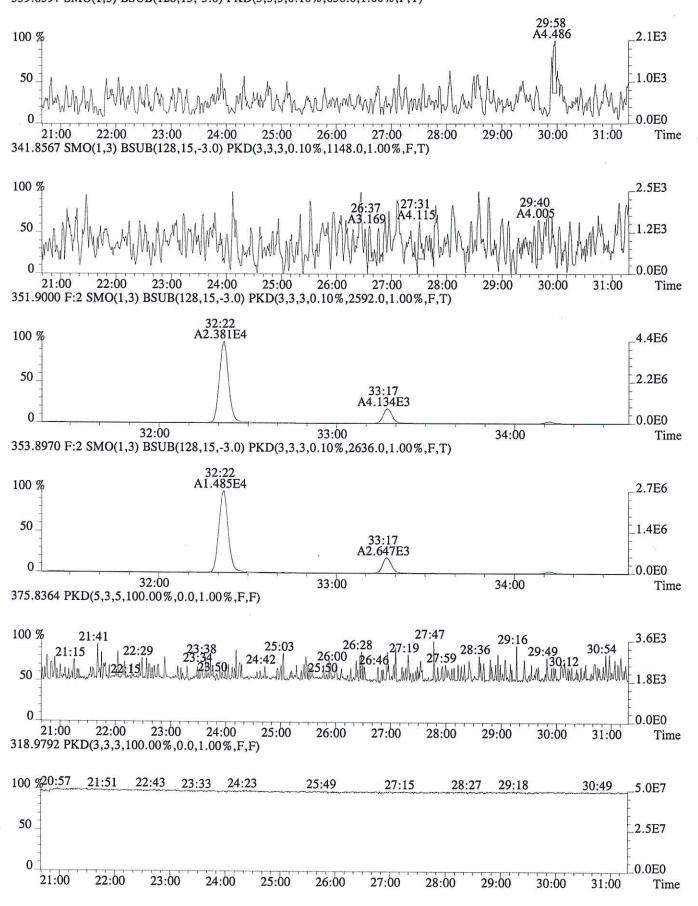
E1600326 115 of 326

File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)

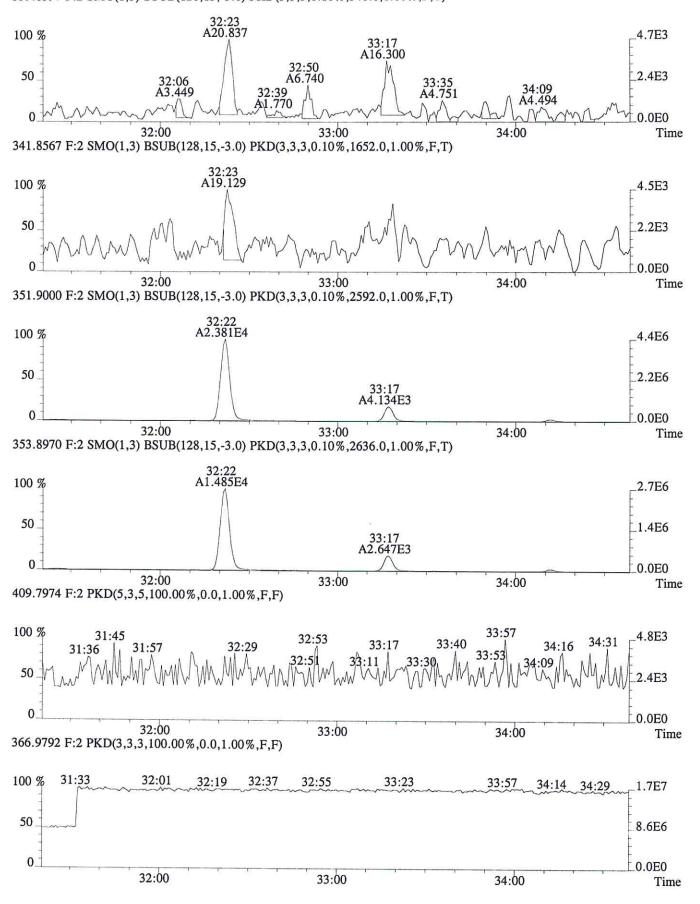


E1600326 116 of 326

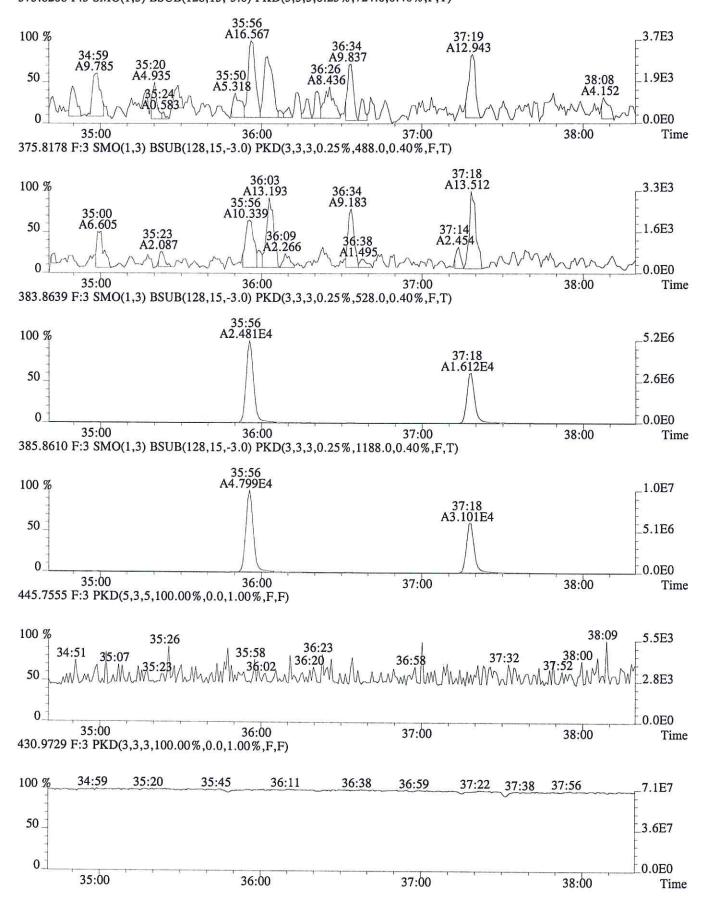
File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



File:P604000 #1-298 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)

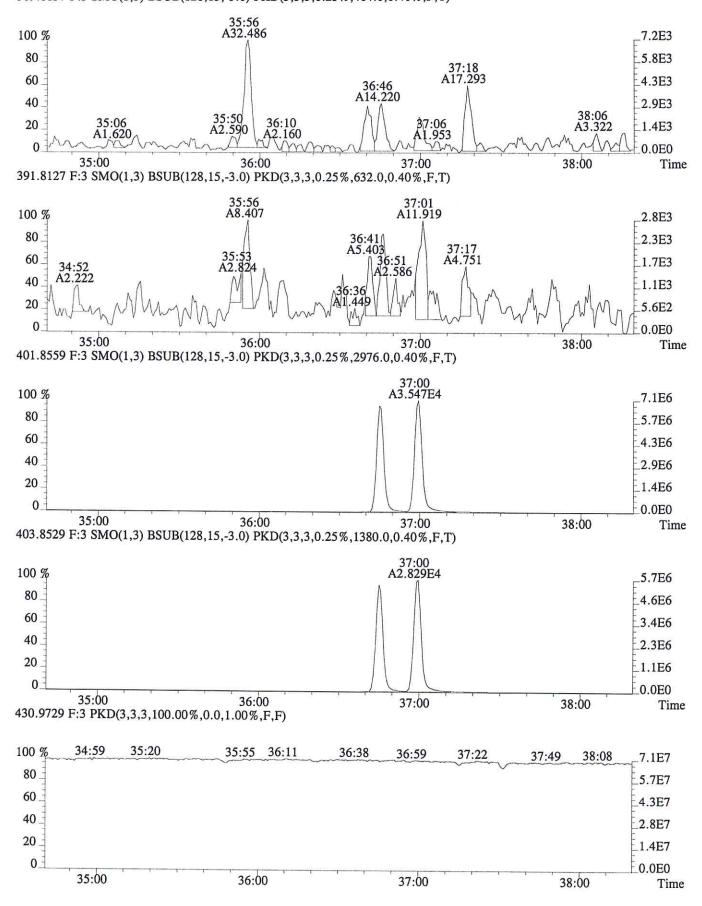


File:P604000 #1-329 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



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File:P604000 #1-329 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,464.0,0.40%,F,T)



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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW13

Run #16 Filename P604001 Samp: 1 Inj: 1 Acquired: 26-JUN-16 02:20:22
Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-007

Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF

1 Unk 2.3.7.8-TCDF|NotFnd | * | * | no |no |0.9

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
10000	Unk Unk	2,3,7,8-TCDF 2,3,4,7,8-PeCDF		*	*		no no	no no	0.957
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	9.363e+02	1.148e+03	0.82	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	1.825e+03	1.174e+03	1.55	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:19	3.054e+02	2.112e+02	1.45	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	1.405e+03	2.709e+03	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:59	3.168e+02	4.360e+02	0.73	yes	yes	1.325
27	IS	13C-2,3,7,8-TCDD	28:59	5.895e+02	7.688e+02	0.77	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	2.523e+03	3.192e+03	0.79	yes	no	j -
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.660e+03	2.846e+03	1.29	yes	no	j -
35	C/Up	37C1-2,3,7,8-TCDD	29:00	1.949e+02			94 7= 4	no	0.945

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CLIENT ID. 04072016SJGW13

Run #16 Filename P604001 Samp: 1 Inj: 1 Acquired: 26-JUN-16 02:20:22

Processed: 1-JUL-16 13:08:59 LAB. ID: E1600326-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	8.08e+02	*	*	2.17e+03	*
3	2,3,4,7,8-PeCDF	*	6.20e+02	*	*	1.73e+03	*
11	2,3,7,8-TCDD	*	1.12e+03	*	*	1.03e+03	*
18	13C-2,3,7,8-TCDF	1.44e+05	3.37e+03	4.3e+01	1.83e+05	2.86e+03	6.4e+01
19	13C-1,2,3,7,8-PeCDF	2.98e+05	7.32e+02	4.1e+02	1.92e+05	1.19e+03	1.6e+02
20	13C-2,3,4,7,8-PeCDF	5.63e+04	7.32e+02	7.7e+01	3.56e+04	1.19e+03	3.0e+01
24	13C-1,2,3,7,8,9-HxCDF	2.61e+05	6.12e+02	4.3e+02	4.89e+05	1.65e+03	3.0e+02
26	13C-1,2,3,4-TCDF	4.89e+04	3.37e+03	1.5e+01	6.38e+04	2.86e+03	2.2e+01
	3						
27	13C-2,3,7,8-TCDD	1.04e+05	6.63e+03	1.6e+01	1.35e+05	4.19e+03	3.2e+01
33	13C-1,2,3,4-TCDD	4.45e+05	6.63e+03	6.7e+01	5.77e+05	4.19e+03	1.4e + 02
34	13C-1,2,3,7,8,9-HxCDD	7.04e+05	1.52e+03	4.6e+02	5.43e+05	1.11e+03	4.9e+02
35	37Cl-2,3,7,8-TCDD	3.27e+04	1.64e+03	2.0e+01			

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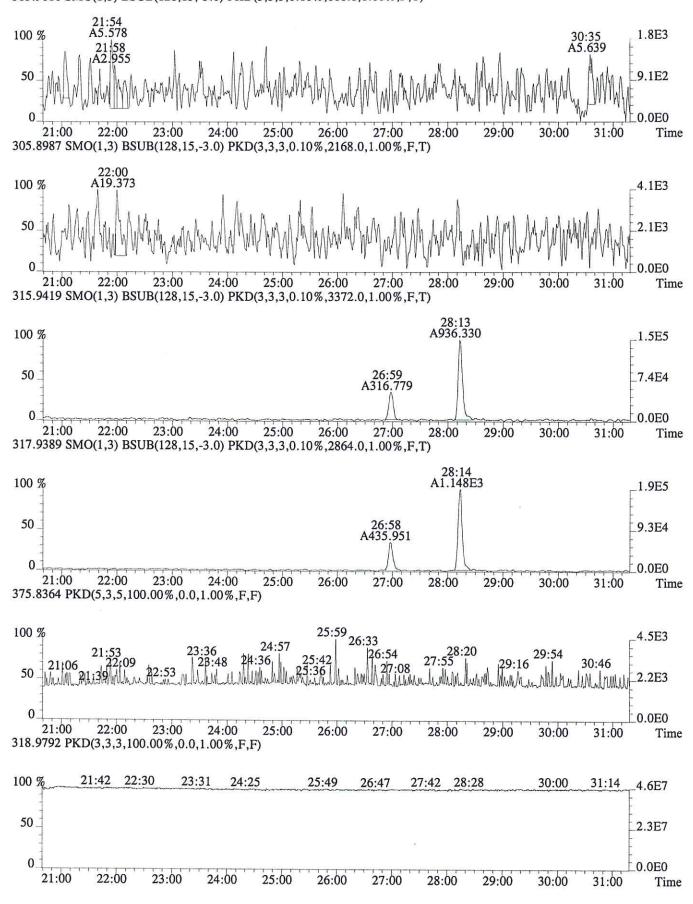
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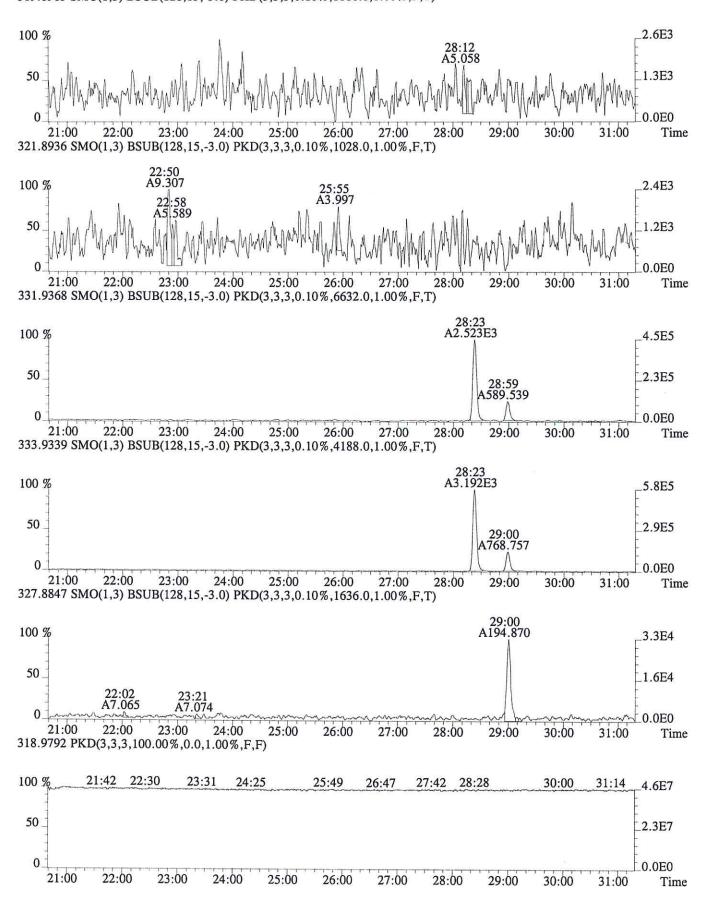
E1600326 122 of 326

File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)

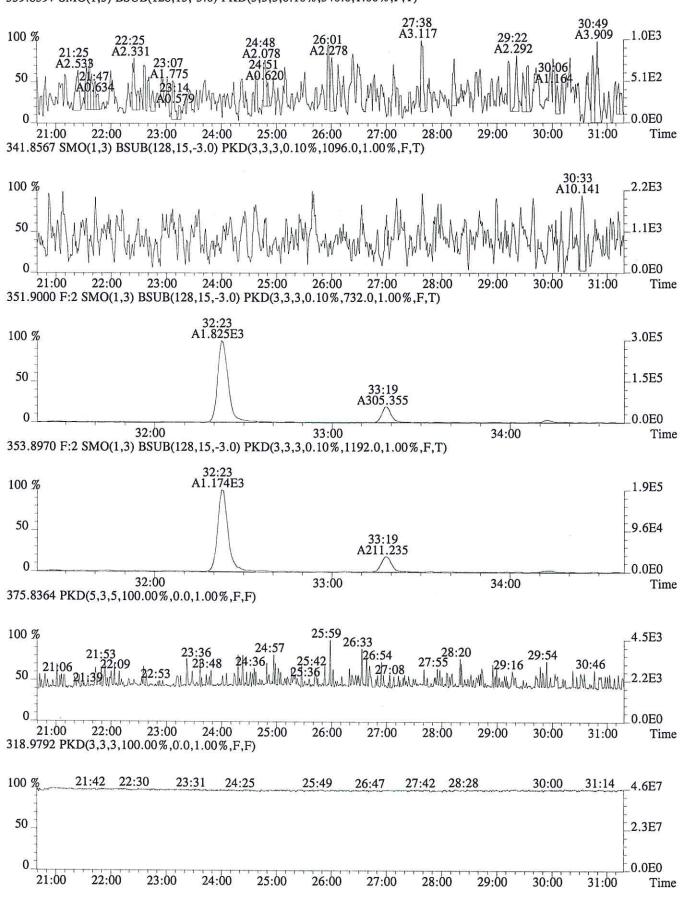


E1600326 123 of 326

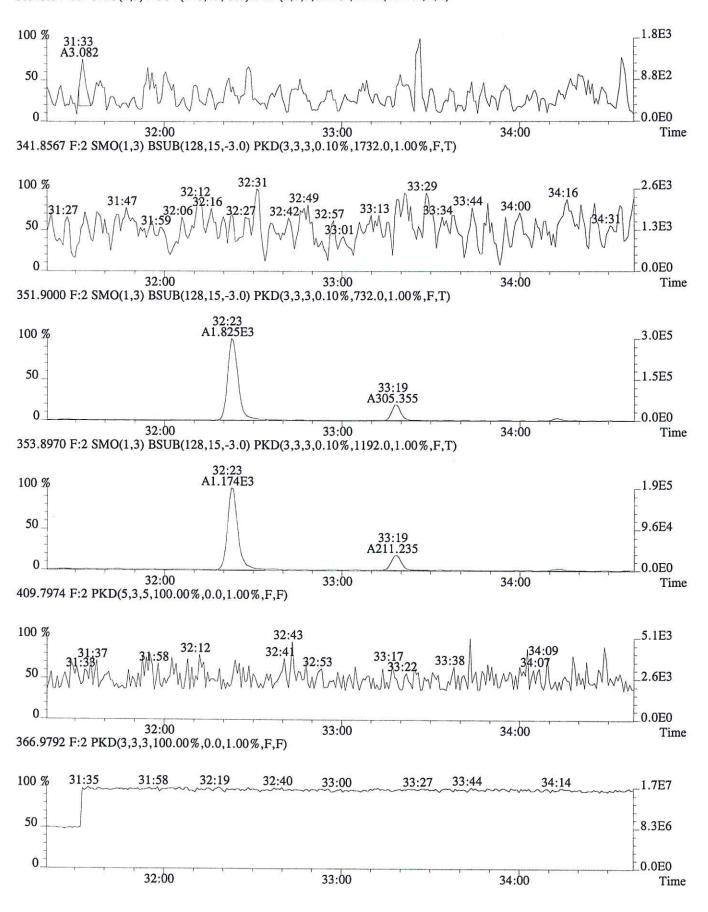
File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1116.0,1.00%,F,T)



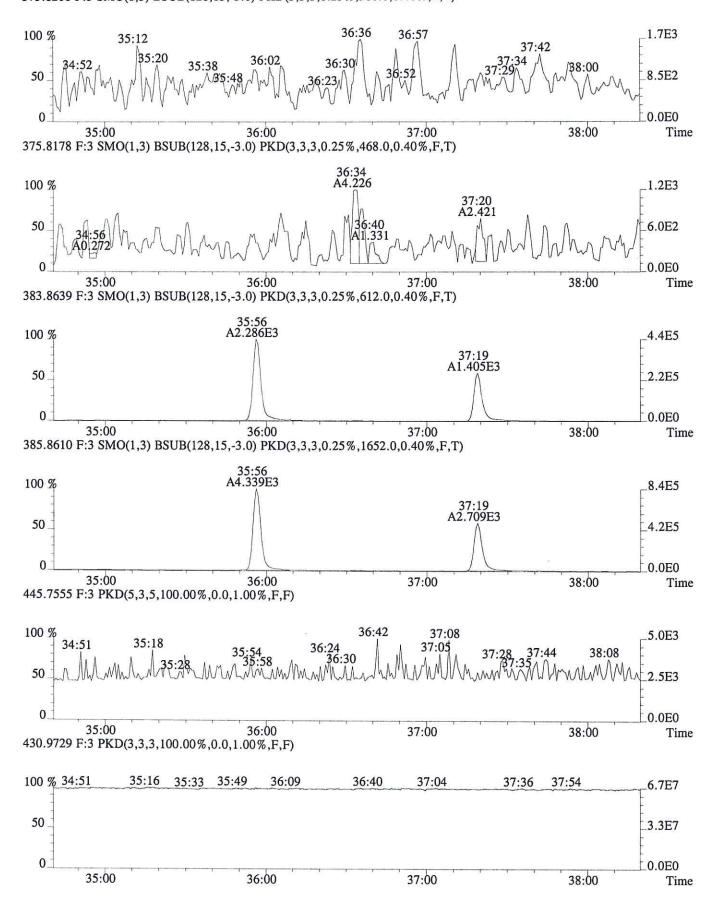
File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



File:P604001 #1-298 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)

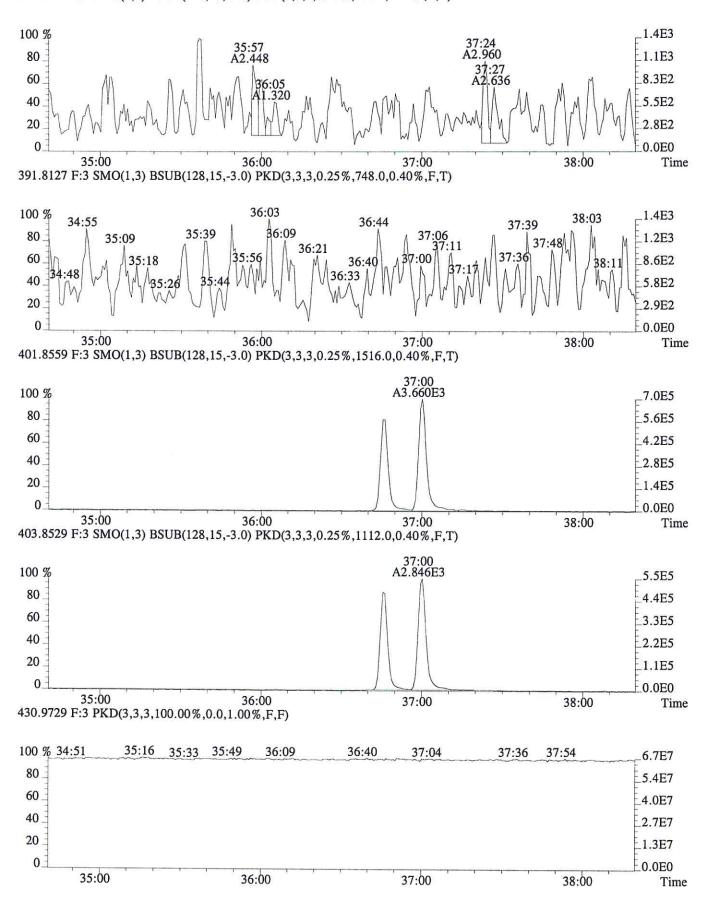


File:P604001 #1-329 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



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File:P604001 #1-329 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW14

Run #12 Filename P604010 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:07:59 Processed: 7-JUL-16 10:26:15 Sample ID: E1600326-008

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:14	1.950e+03	2.562e+03	0.76	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	3.723e+03	2.354e+03	1.58	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:19	6.927e+02	4.206e+02	1.65	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	2.657e+03	5.412e+03	0.49	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:59	6.435e+02	8.888e+02	0.72	yes	no	1.325
									•.
27	IS	13C-2,3,7,8-TCDD	29:00	1.350e+03	1.813e+03	0.74	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:24	4.811e+03	6.255e+03	0.77	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	6.939e+03	5.375e+03	1.29	yes	no	j -
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	4.220e+02			· D	no	0.945

EPL TCDD =-	(f.50e+03	+ 160+03) x fooo	pg 1 x 2.5		11.25 mg/19
1000	(1.350e+0 3 (2.39e+03	+ 1.813e+03 + 3.25e+05	3) x 1.0	g x (°° /	x 1.048	mo7/07/16

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CLIENT ID. 04072016SJGW14

Run #12 Filename P604010 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:07:59

Processed: 7-JUL-16 10:26:15 LAB. ID: E1600326-008

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	9.36e+02	*	*	2.80e+03	*
3	2,3,4,7,8-PeCDF	*	6.76e+02	*	*	1.67e+03	*
11	2,3,7,8-TCDD	*	1.50e+03	*	*	1.16e+03	*
18	13C-2,3,7,8-TCDF	3.37e+05	5.42e+03	6.2e+01	4.35e+05	2.86e+03	1.5e+02
19	13C-1,2,3,7,8-PeCDF	6.69e+05	1.24e+03	5.4e+02	4.21e+05	1.01e+03	4.2e+02
20	13C-2,3,4,7,8-PeCDF	1.35e+05	1.24e+03	1.1e+02	7.79e+04	1.01e+03	7.7e+01
24	13C-1,2,3,7,8,9-HxCDF	5.21e+05	8.08e+02	6.5e+02	1.06e+06	1.90e+03	5.6e+02
26	13C-1,2,3,4-TCDF	1.11e+05	5.42e+03	2.0e+01	1.43e+05	2.86e+03	5.0e+01
27	13C-2,3,7,8-TCDD	2.39e+05	8.46e+03	2.8e+01	3.25e+05	3.56e+03	9.1e+01
33	13C-1,2,3,4-TCDD	8.74e+05	8.46e+03	1.0e+02	1.17e+06	3.56e+03	3.3e+02
34	13C-1,2,3,7,8,9-HxCDD	1.38e+06	2.51e+03	5.5e+02	1.06e+06	1.20e+03	8.8e+02
35	37Cl-2,3,7,8-TCDD	7.41e+04	1.88e+03	3.9e+01			

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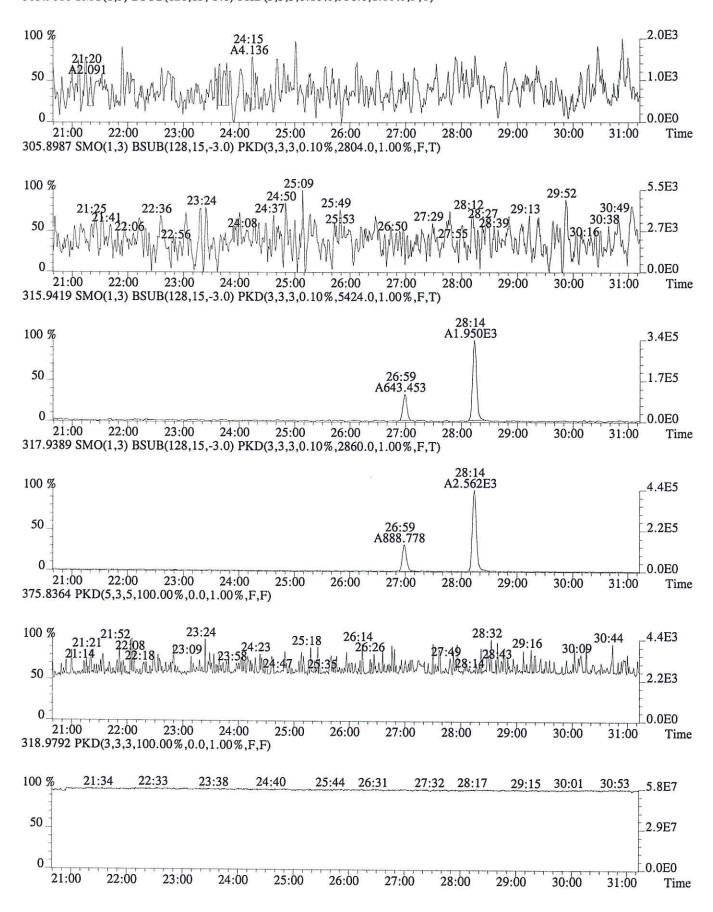
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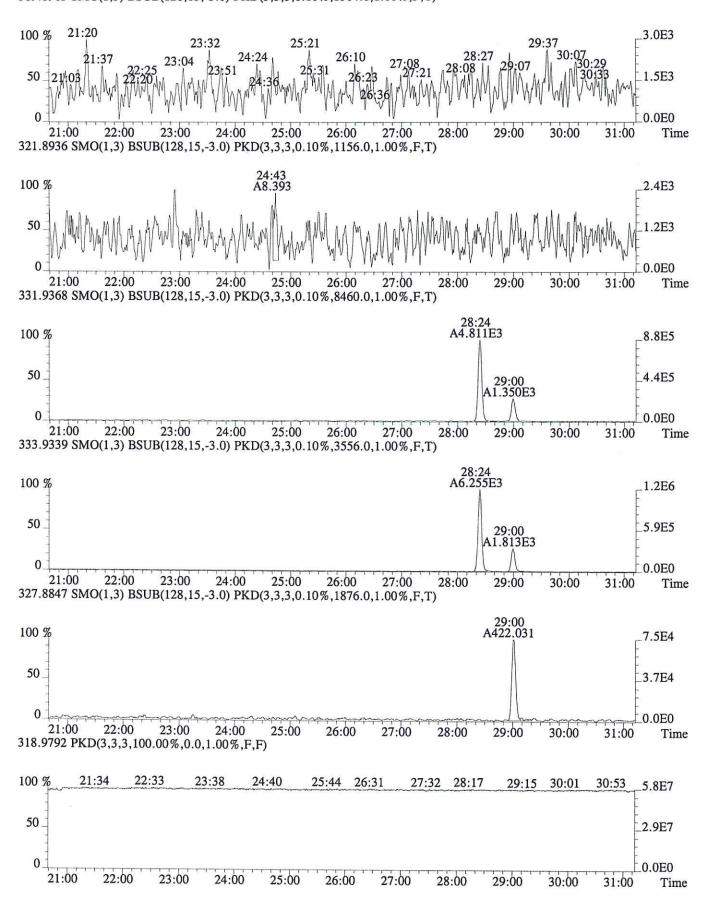
E1600326 130 of 326

File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,T)



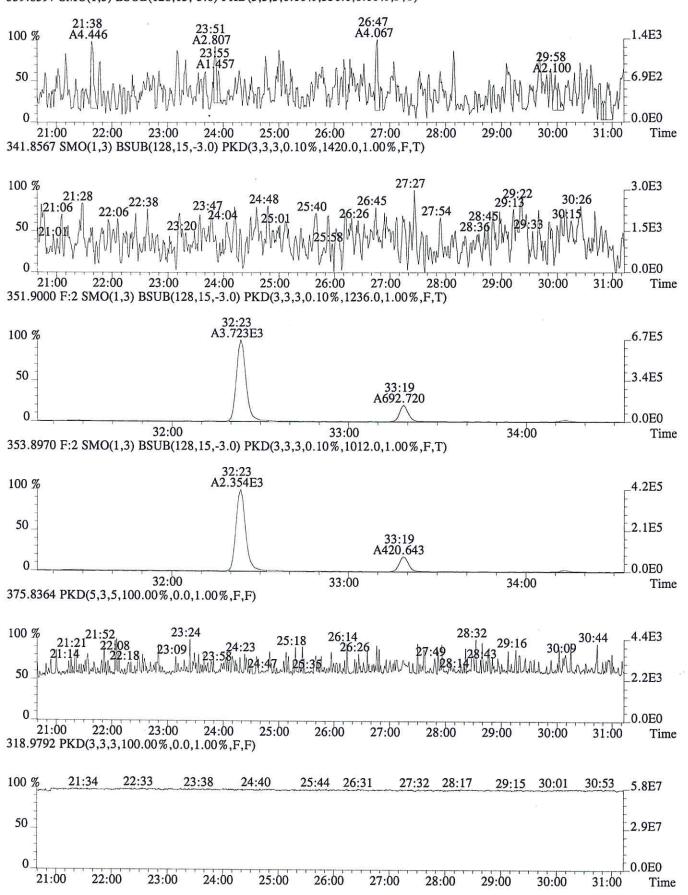
E1600326 131 of 326

File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)

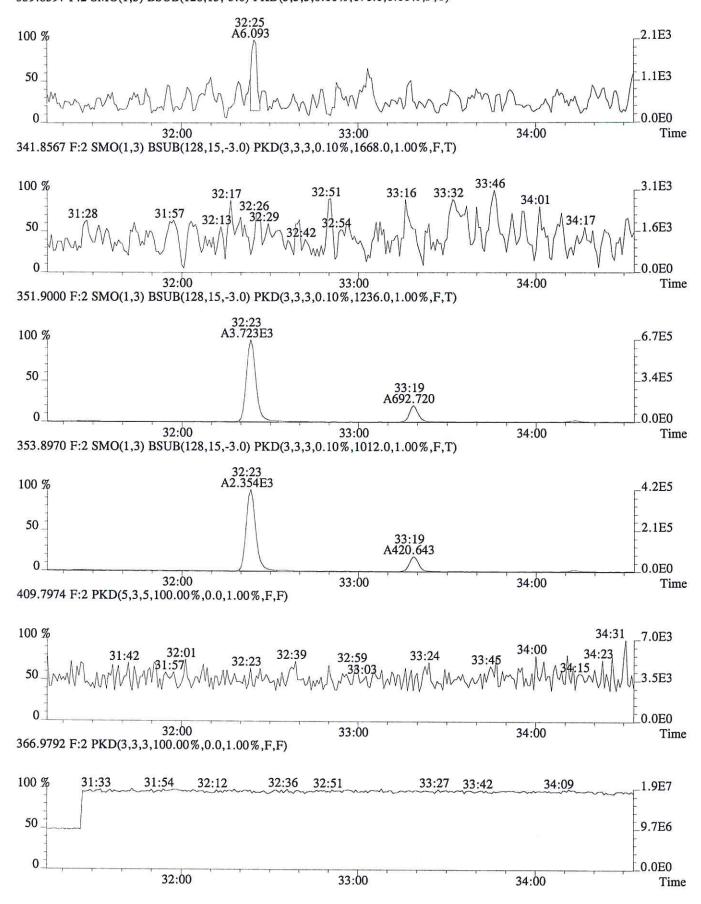


E1600326 132 of 326

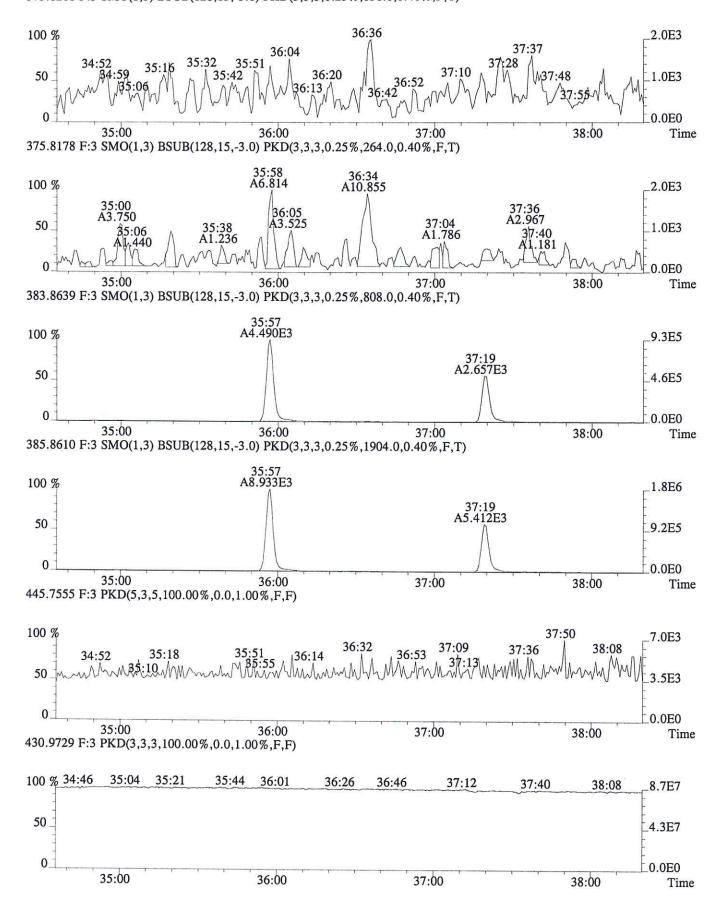
File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



File:P604010 #1-299 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)

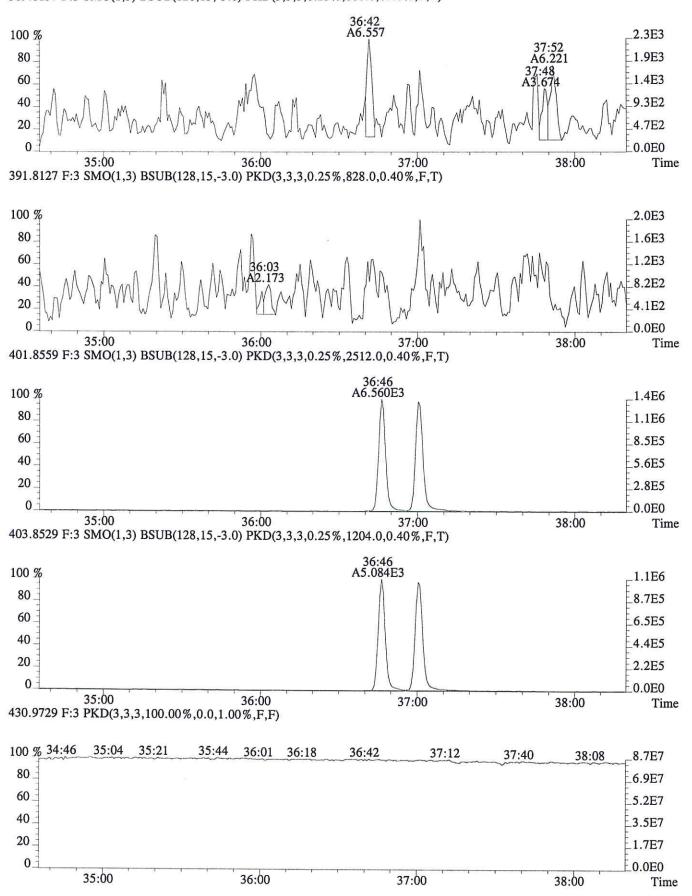


File:P604010 #1-337 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



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File:P604010 #1-337 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW15

Run #13 Filename P604011 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:54:24 Processed: 7-JUL-16 10:26:16 Sample ID: E1600326-009

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio M	Meet N	Mod?	RRF
3 11 18	Unk Unk Unk IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	NotFnd NotFnd 28:11	* * 1.584e+04 2.740e+04	* * 1.994e+04 1.737e+04	200	no j no i	yes no no	0.957 0.929 1.048 1.283 1.381
20 24	IS IS IS	13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:17 37:18	4.757e+03 1.931e+04 4.721e+03	2.932e+03 3.838e+04 5.988e+03	1.62 y 0.50 y 0.79 y	yes 1	no no	1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:21 36:59	1.149e+04 3.901e+04 4.445e+04 3.377e+03	1.473e+04 4.972e+04 3.489e+04	0.78 y 0.78 y 1.27 y	yes i	no no no	0.929 - - 0.945

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Samp: 1

CLIENT ID. 04072016SJGW15

Acquired: 26-JUN-16 14:54:24

Processed: 7-JUL-16 10:26:16 LAB. ID: E1600326-009 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF | * 1.28e+03 * 2.46e+03 * 3 2,3,4,7,8-PeCDF | * 9.32e+02 * 1.50e+03 11 2,3,7,8-TCDD | * 1.22e+03 * 1.50e+03 * 18 13C-2,3,7,8-TCDF| 2.91e+06| 6.23e+03| 4.7e+02| 3.61e+06| 3.14e+03| 1.1e+03

Inj: 1

13C-1,2,3,7,8-PeCDF	5.12e+06	1.12e+03	4.6e+03	3.23e+06	1.09e+03	3.0e+03
13C-2,3,4,7,8-PeCDF	9.10e+05	1.12e+03	8.1e+02	5.62e+05	1.09e+03	5.1e+02
13C-1,2,3,7,8,9-HxCDF	3.89e+06	1.14e+03	3.4e+03	7.80e+06	2.08e+03	3.8e+03
13C-1,2,3,4-TCDF	7.79e+05	6.23e+03	1.2e+02	9.80e+05	3.14e+03	3.1e+02
					•	
13C-2,3,7,8-TCDD	2.23e+06	9.68e+03	2.3e+02	2.82e+06	4.46e+03	6.3e+02
13C-1,2,3,4-TCDD	7.43e+06	9.68e+03	7.7e+02	9.48e+06	4.46e+03	2.1e+03
13C-1,2,3,7,8,9-HxCDD	9.28e+06	2.13e+03	4.4e+03	7.45e+06	1.66e+03	4.5e+03
2001 0 2 0 0 0000	c 10 0=1	0 10 00				
	13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF 13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD	13C-2,3,4,7,8-PeCDF 9.10e+05 13C-1,2,3,7,8,9-HxCDF 3.89e+06 13C-1,2,3,4-TCDF 7.79e+05 13C-2,3,7,8-TCDD 2.23e+06 13C-1,2,3,4-TCDD 7.43e+06 13C-1,2,3,7,8,9-HxCDD 9.28e+06	13C-2,3,4,7,8-PeCDF 9.10e+05 1.12e+03 13C-1,2,3,7,8,9-HxCDF 3.89e+06 1.14e+03 13C-1,2,3,4-TCDF 7.79e+05 6.23e+03 13C-2,3,7,8-TCDD 2.23e+06 9.68e+03 13C-1,2,3,4-TCDD 7.43e+06 9.68e+03 13C-1,2,3,7,8,9-HxCDD 9.28e+06 2.13e+03	13C-2,3,4,7,8-PeCDF 9.10e+05 1.12e+03 8.1e+02 13C-1,2,3,7,8,9-HxCDF 3.89e+06 1.14e+03 3.4e+03 13C-1,2,3,4-TCDF 7.79e+05 6.23e+03 1.2e+02 13C-2,3,7,8-TCDD 2.23e+06 9.68e+03 2.3e+02 13C-1,2,3,4-TCDD 7.43e+06 9.68e+03 7.7e+02	13C-2,3,4,7,8-PeCDF 9.10e+05 1.12e+03 8.1e+02 5.62e+05 13C-1,2,3,7,8,9-HxCDF 3.89e+06 1.14e+03 3.4e+03 7.80e+06 13C-1,2,3,4-TCDF 7.79e+05 6.23e+03 1.2e+02 9.80e+05 13C-2,3,7,8-TCDD 2.23e+06 9.68e+03 2.3e+02 2.82e+06 13C-1,2,3,4-TCDD 7.43e+06 9.68e+03 7.7e+02 9.48e+06 13C-1,2,3,7,8,9-HxCDD 9.28e+06 2.13e+03 4.4e+03 7.45e+06	13C-2,3,4,7,8-PeCDF 9.10e+05 1.12e+03 8.1e+02 5.62e+05 1.09e+03 13C-1,2,3,7,8,9-HxCDF 3.89e+06 1.14e+03 3.4e+03 7.80e+06 2.08e+03 13C-1,2,3,4-TCDF 7.79e+05 6.23e+03 1.2e+02 9.80e+05 3.14e+03 13C-2,3,7,8-TCDD 2.23e+06 9.68e+03 2.3e+02 2.82e+06 4.46e+03 13C-1,2,3,4-TCDD 7.43e+06 9.68e+03 7.7e+02 9.48e+06 4.46e+03 13C-1,2,3,7,8,9-HxCDD 9.28e+06 2.13e+03 4.4e+03 7.45e+06 1.66e+03

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Run #13 Filename P604011

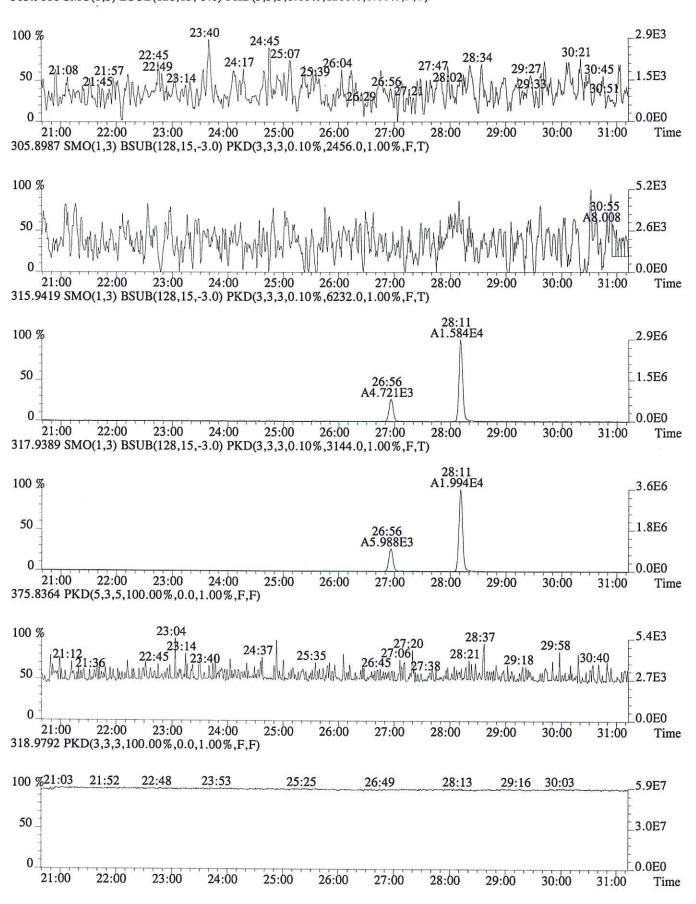
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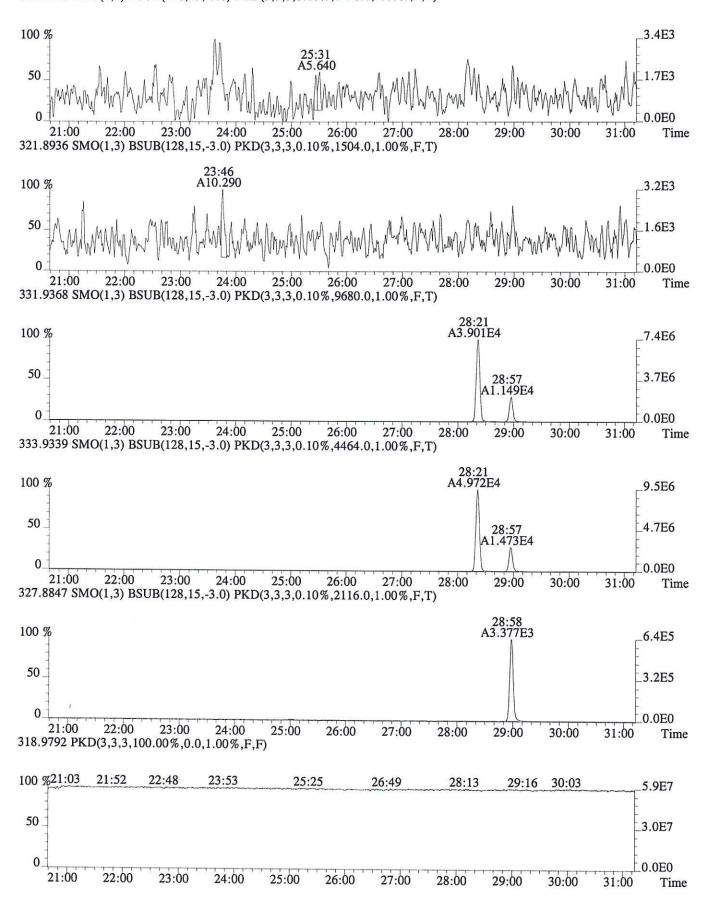
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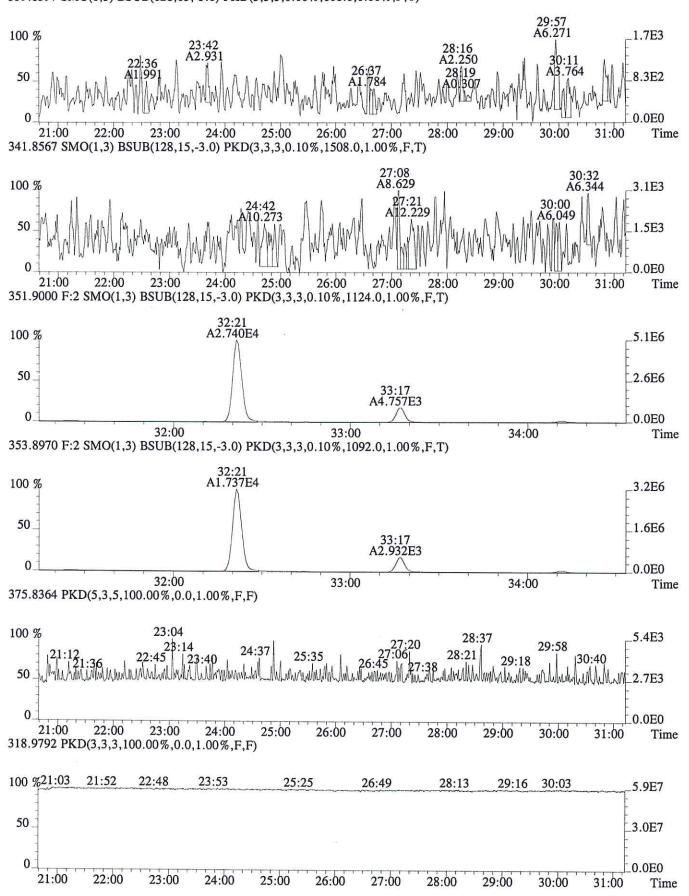
File:P604011 #1-749 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1280.0,1.00%,F,T)



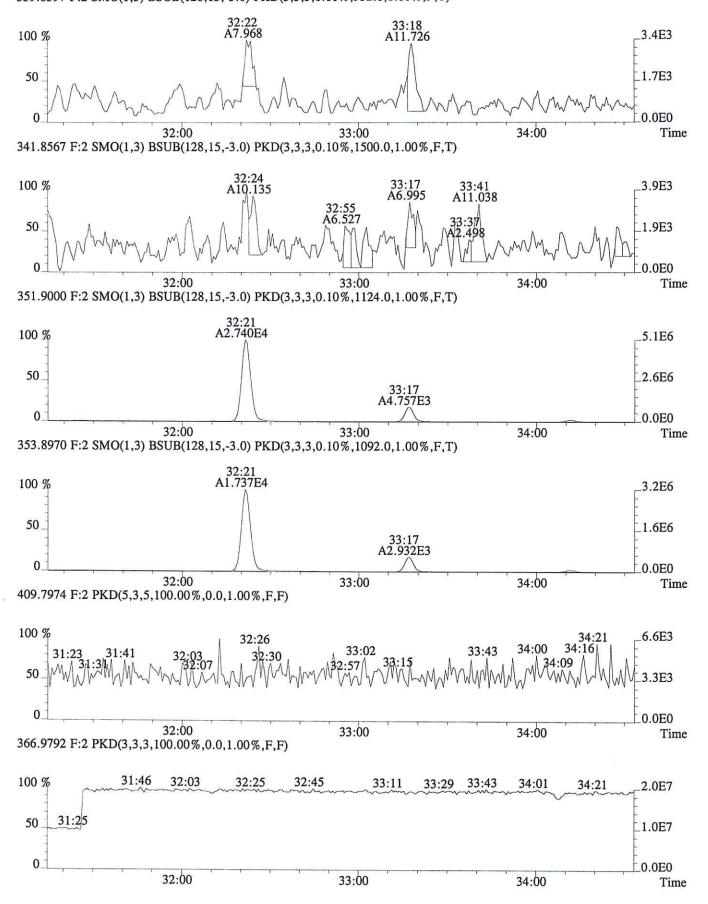
File:P604011 #1-749 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



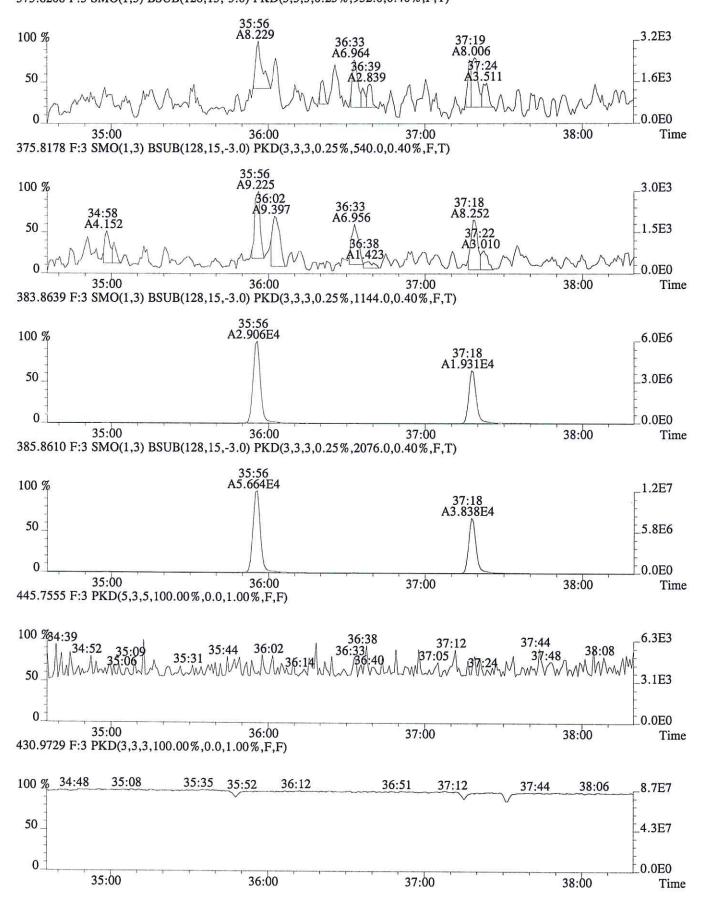
File:P604011 #1-749 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



File:P604011 #1-299 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)

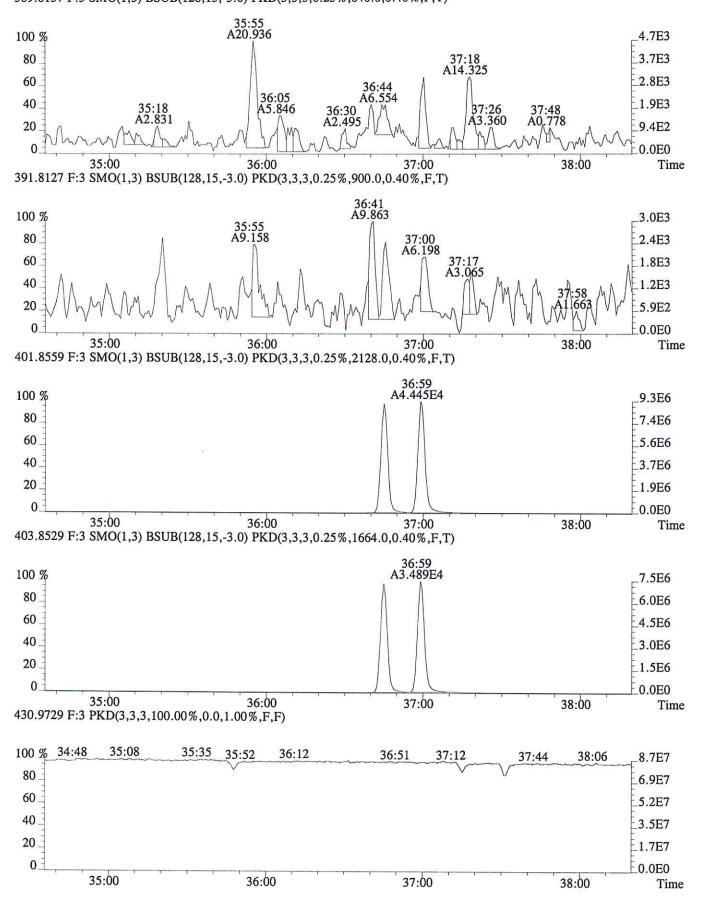


File:P604011 #1-337 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



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File:P604011 #1-337 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09 Processed: 1-JUL-16 11:44:18 Sample ID: EQ1600219-01

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	4.809e+01	3.936e+01	1.22	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.349e+04	4.194e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	4.984e+04	3.137e+04	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.723e+04	2.963e+04	1.59	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	2.878e+04	5.649e+04	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
					<i>5</i>	12		13	70
27	IS	13C-2,3,7,8-TCDD	28:58	2.559e+04	3.261e+04	0.78	yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:22	3.155e+04	3.965e+04	0.80	yes	no	i -
	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.547e+04	2.995e+04	1.18	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	28:59	6.727e+01	5	5		no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18 LAB. ID: EQ1600219-01

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	1.18e+03	*	*	3.42e+03	*
3	2,3,4,7,8-PeCDF	9.96e+03	6.92e+02	1.4e+01	8.22e+03	1.70e+03	4.8e+00
11	2,3,7,8-TCDD	*	1.70e+03	*	*	1.42e+03	*
18	13C-2,3,7,8-TCDF	6.07e+06	6.55e+03	9.3e+02	7.58e+06	3.48e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.10e+06	7.38e+03	1.2e+03	5.72e+06	5.96e+03	9.6e+02
20	13C-2,3,4,7,8-PeCDF	9.20e+06	7.38e+03	1.2e+03	5.79e+06	5.96e+03	9.7e+02
24	13C-1,2,3,7,8,9-HxCDF	5.77e+06	1.08e+03	5.3e+03	1.10e+07	2.23e+03	4.9e+03
26	13C-1,2,3,4-TCDF	*	6.55e+03	*	*	3.48e+03	*
27	13C-2,3,7,8-TCDD	4.95e+06	9.06e+03	5.5e+02	6.29e+06	3.78e+03	1.7e+03
33	13C-1,2,3,4-TCDD	6.03e+06	9.06e+03	6.7e+02	7.53e+06	3.78e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	7.29e+06	2.17e+03	3.4e+03	5.91e+06	1.44e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	1.20e+04	2.08e+03	5.8e+00			

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ALS ENVIRONMENTAL Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 39 Totals Name: Total Penta-Furans2

Run: 8 File: P603993

Sample:1 Injection:1 Function:2

Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18

Mass: 339.8600 341.8570 Tot Response: 1.28e+02 RRF: 0.9596

RT

Resp Resp Ratio Meet Tot Resp

Name

Mod1? Mod2

32:23 7.46e+01 5.34e+01 1.40 yes 1.28e+02 1,2,3,7,8-PeCDF

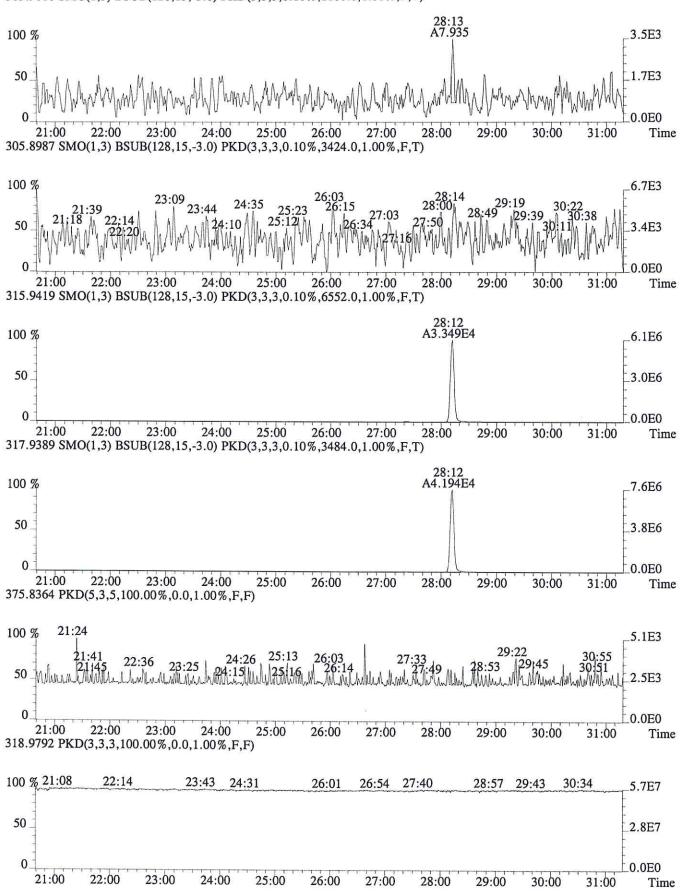
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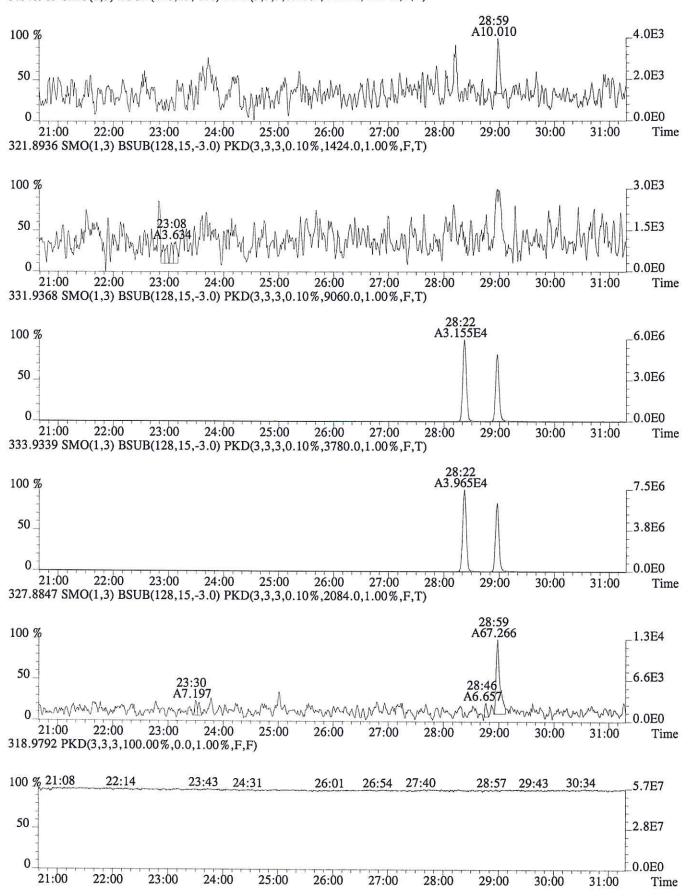
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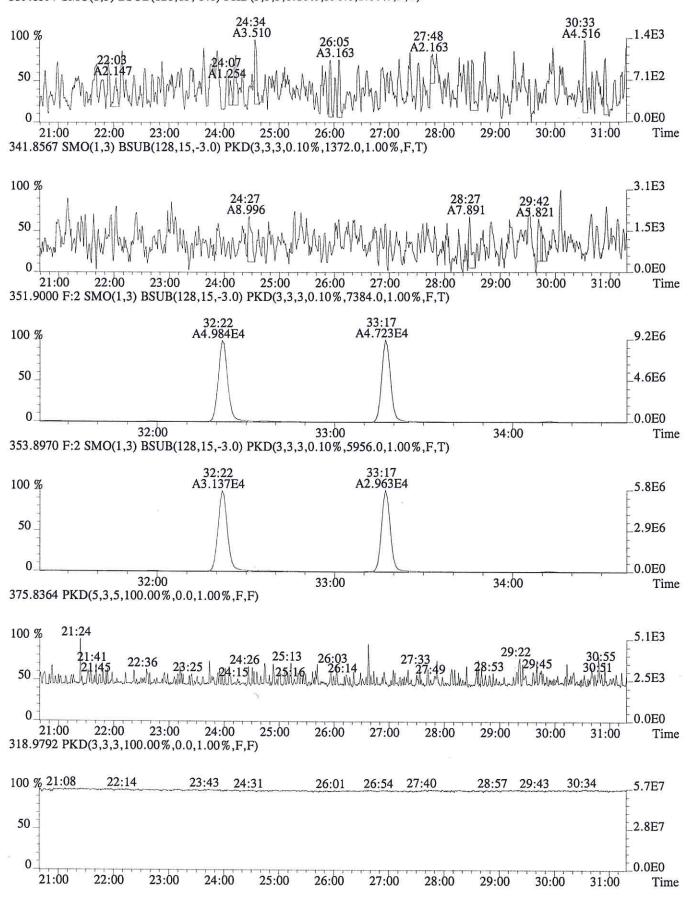
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



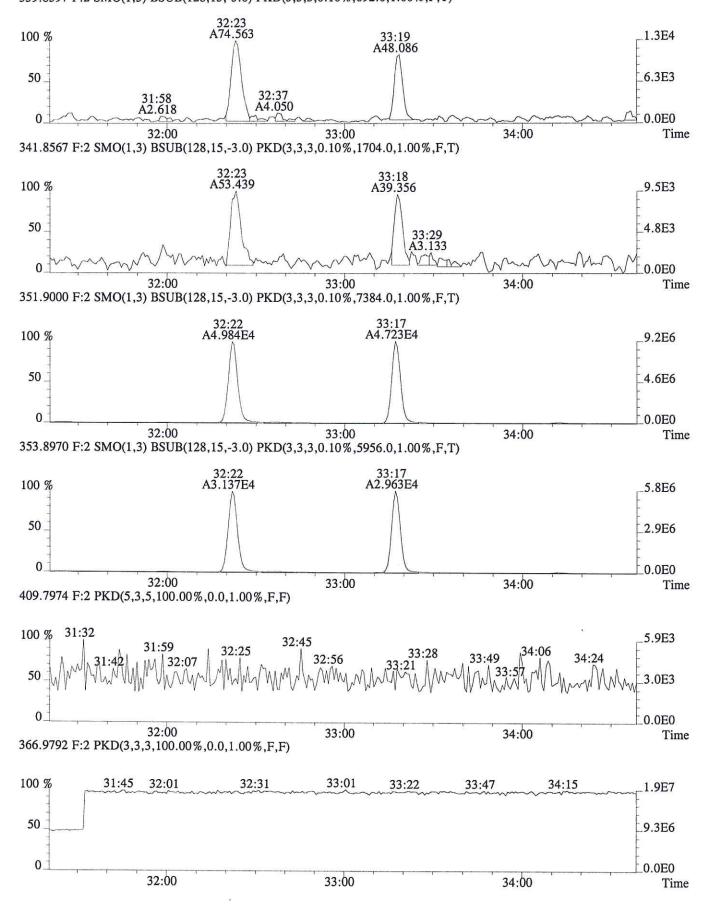
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1704.0,1.00%,F,T)



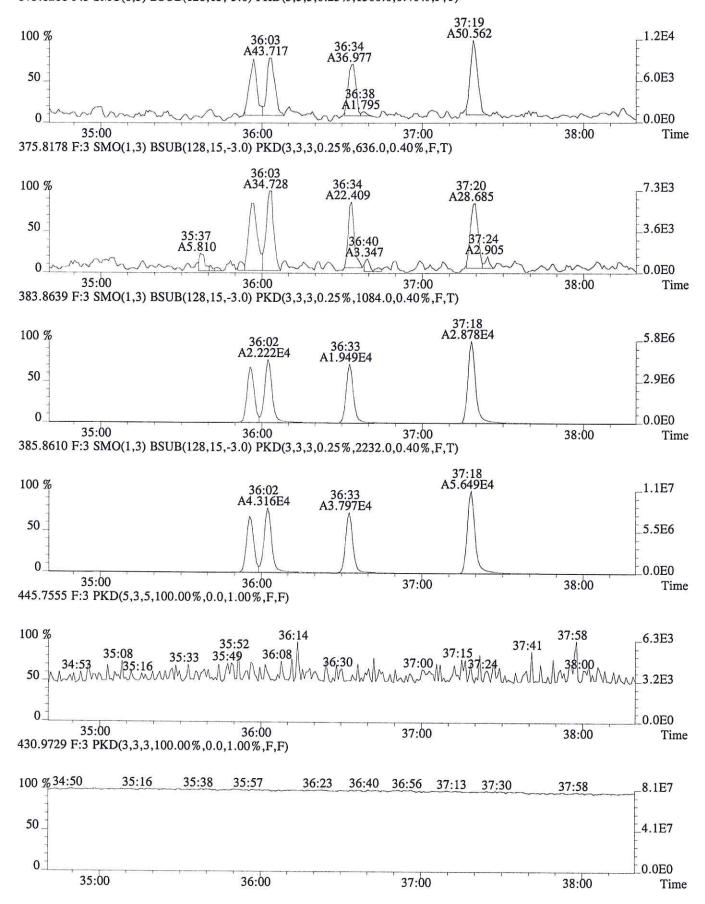
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



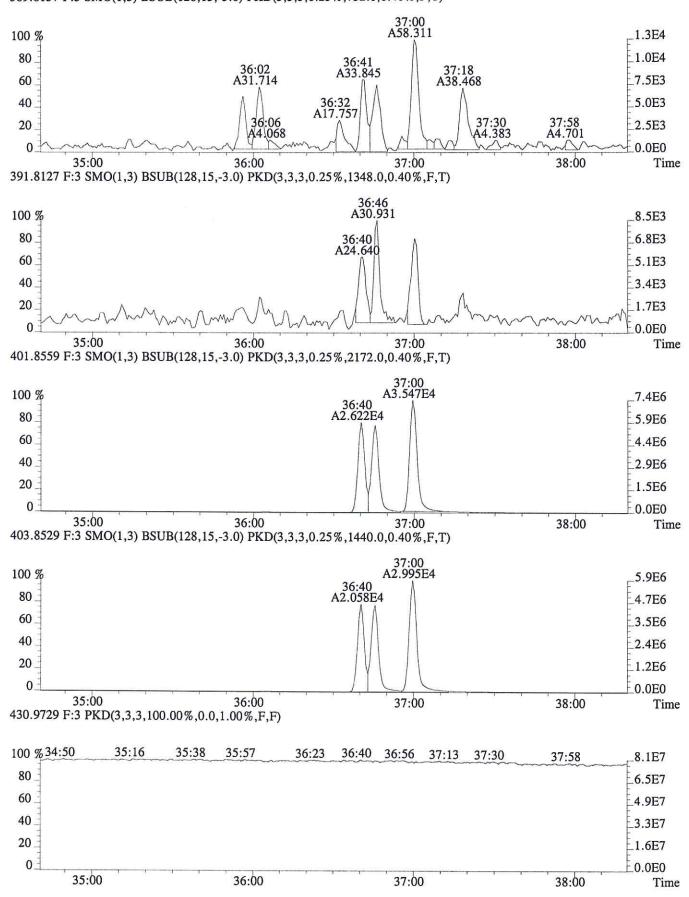
File:P603993 #1-298 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #7 Filename P604002 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:09:23

Processed: 1-JUL-16 15:35:42 Sample ID: EQ1600219-02

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:14	2.801e+03	3.660e+03	0.77 yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.190e+04	1.413e+04	1.55 yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	2.231e+03	2.891e+03	0.77 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.350e+04	4.172e+04	0.80 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	5.040e+04	3.141e+04	1.60 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.698e+04	2.983e+04	1.57 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.332e+04	6.463e+04	0.52 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	* no	no	1.324
							*	
27	IS	13C-2,3,7,8-TCDD	28:58	2.534e+04	3.171e+04	0.80 yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:22	2.878e+04	3.661e+04	0.79 yes	no	
	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.503e+04	2.861e+04	1.22 yes	no	:=:
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	7.948e+01			no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. LCS

Run	#7 Filename P604002	Sam	ip: 1 Ir	ıj: 1	Acquired:	26-JUN-16	03:09:23
Proc	essed: 1-JUL-16 15:35	5:42	LAB. II	: E016002	19-02		
					tenes som		
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	5.03e+05	7.96e+02	6.3e+02	6.62e+05	2.36e+03	2.8e+02
3	2,3,4,7,8-PeCDF	4.38e+06	2.79e+03	1.6e+03	2.85e+06	2.28e+03	1.2e+03
11	2,3,7,8-TCDD	4.39e+05	1.02e+03	4.3e+02	5.62e+05	1.12e+03	5.0e+02
18	13C-2,3,7,8-TCDF	6.10e+06	3.89e+03	1.6e+03	7.65e+06	2.73e+03	2.8e+03
19	13C-1,2,3,7,8-PeCDF	9.44e+06	5.98e+03	1.6e+03	5.84e+06	6.68e+02	8.7e+03
20	13C-2,3,4,7,8-PeCDF	9.26e+06	5.98e+03	1.5e+03	5.88e+06	6.68e+02	8.8e+03
24	13C-1,2,3,7,8,9-HxCDF	6.74e+06	7.64e+02	8.8e+03	1.29e+07	1.90e+03	6.8e+03
26	13C-1,2,3,4-TCDF	*	3.89e+03	*	*	2.73e+03	*
			,			,	
27	13C-2,3,7,8-TCDD	4.84e+06	7.32e+03	6.6e+02	6.09e+06	2.92e+03	2.1e+03
33	13C-1,2,3,4-TCDD	5.37e+06	7.32e+03	7.3e+02	6.86e+06	2.92e+03	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	7.54e+06	1.57e+03	4.8e+03	5.95e+06	1.14e+03	5.2e+03
35	37C1-2,3,7,8-TCDD	1.40e+04	1.43e+03	9.8e+00	A STATE OF THE PARTY OF THE PAR	Andrew State and The International	

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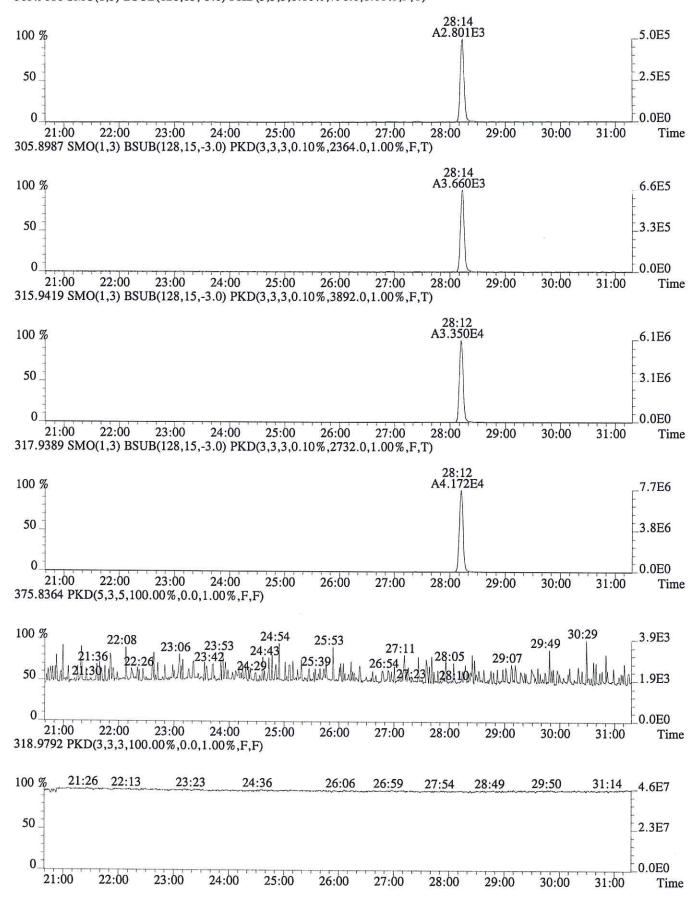
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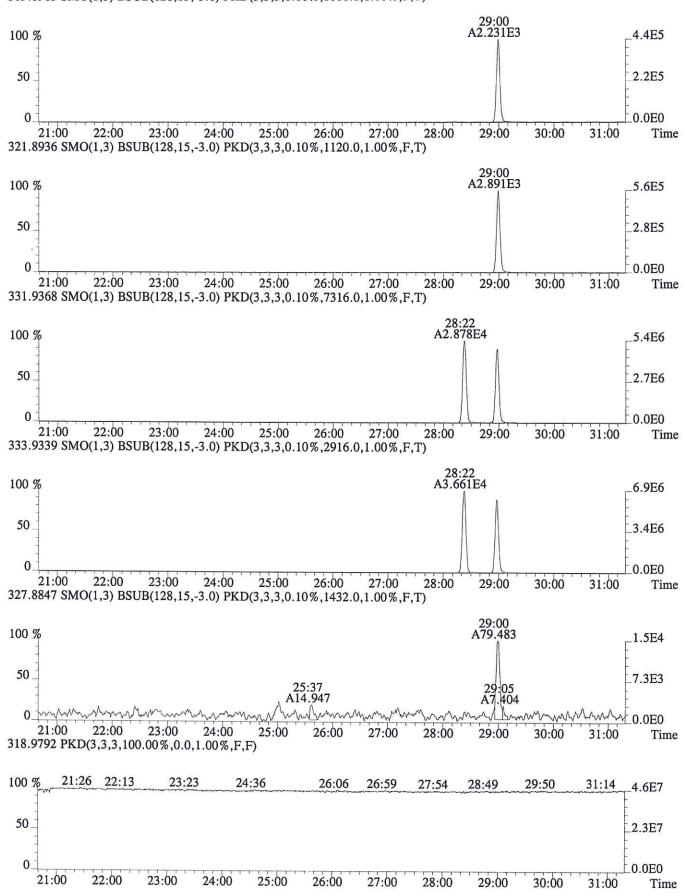
File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



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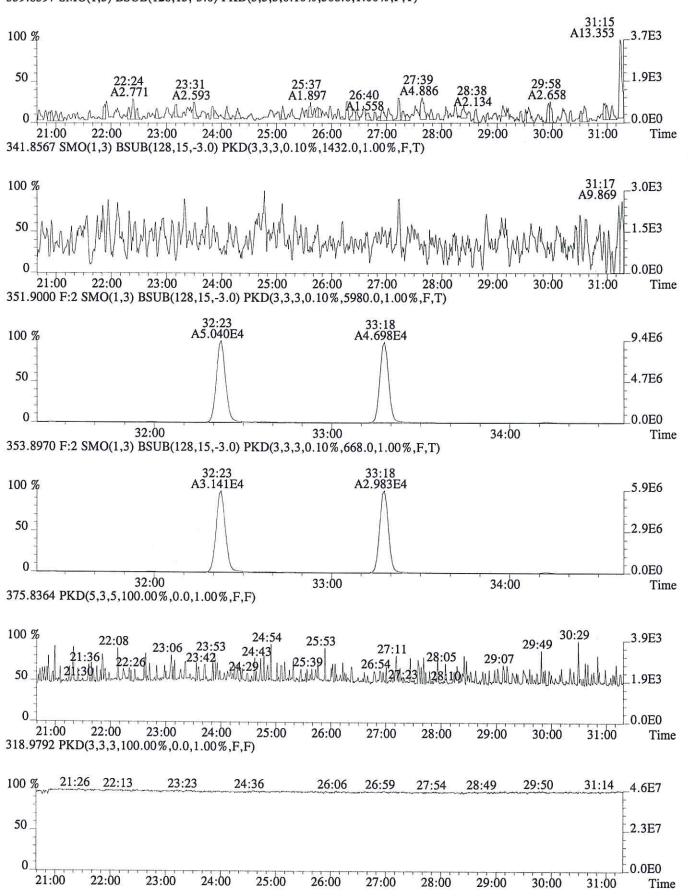
E1600326

File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)

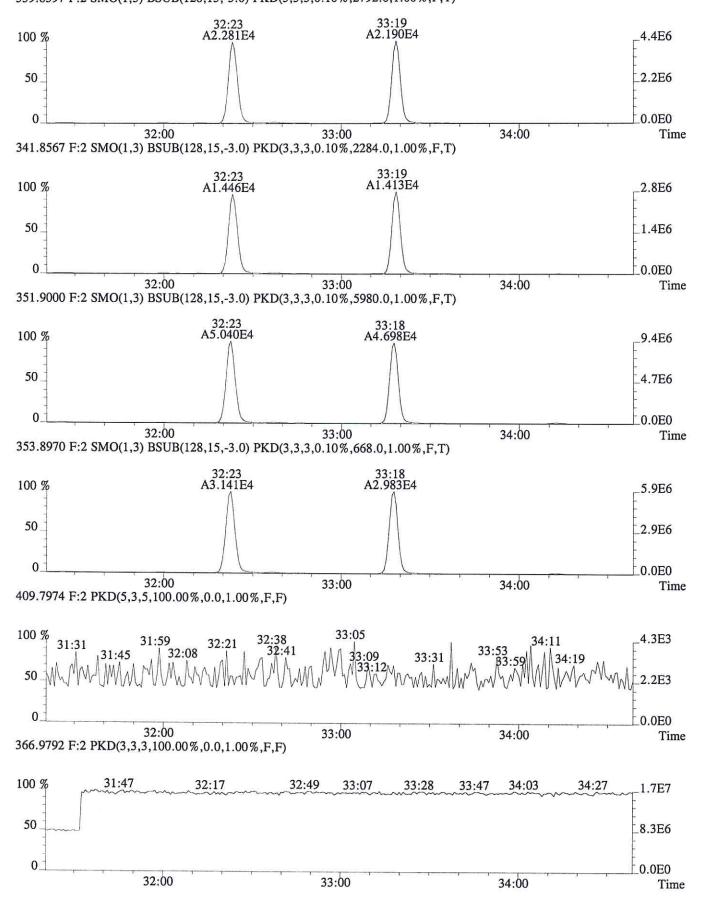


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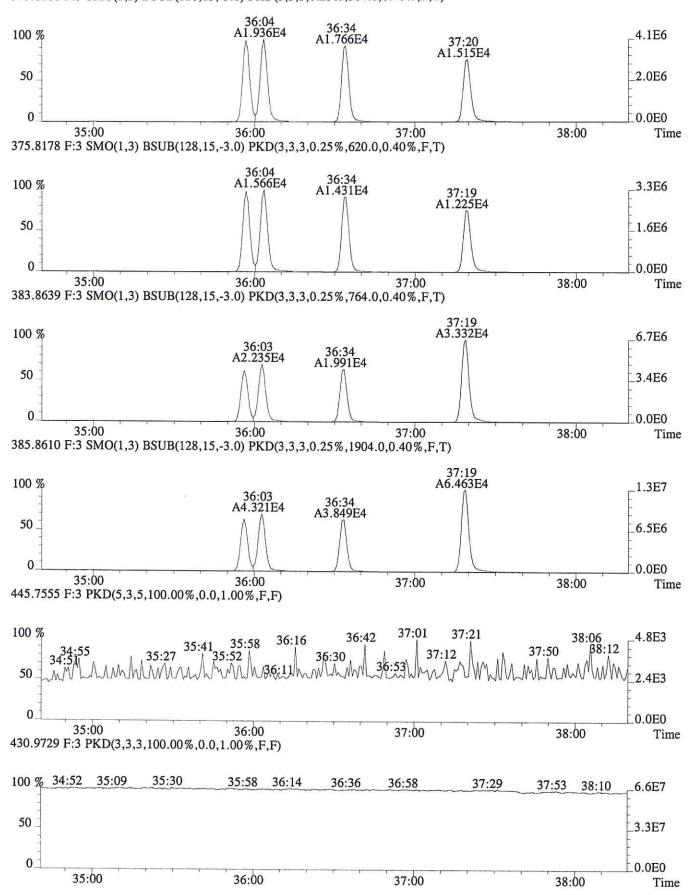
File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,T)



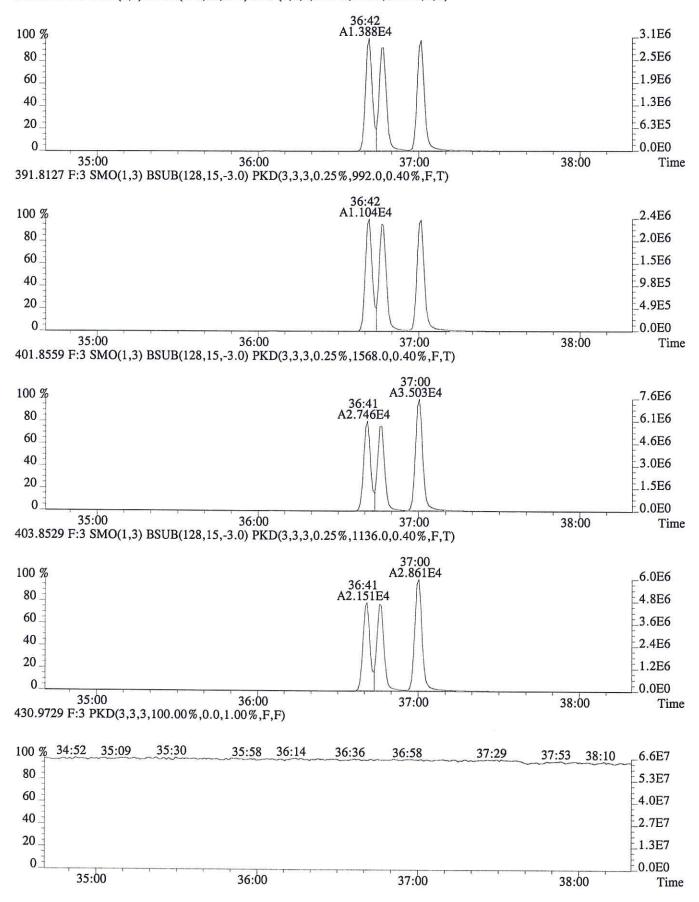
File:P604002 #1-298 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2792.0,1.00%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #8 Filename P604003 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:58:24

Processed: 1-JUL-16 15:35:43 Sample ID: EQ1600219-03

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
0.5	Unk	2,3,7,8-TCDF	200 (20 (00 (00 (00 (00 (00 (00 (00 (00	2.475e+02	3.295e+02	0.75		no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.105e+03	1.300e+03	1.62	yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	1.781e+02	2.430e+02	0.73	yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	2.865e+03	3.441e+03	0.83	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	4.842e+03	3.037e+03	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.611e+03	2.925e+03	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.533e+03	6.873e+03	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
27	IS	13C-2,3,7,8-TCDD	28:59	2.121e+03	2.640e+03	0.80	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	2.977e+03	3.759e+03	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	4.340e+03	3.498e+03	1.24	yes	no	j -
35	C/Up	37C1-2,3,7,8-TCDD	NotFnd	*				no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

DLCS

Run	#8 Filename P604003	Sam	p: 1 Ir	ıj: 1	Acquired:	26-JUN-16	03:58:24
Proc	essed: 1-JUL-16 15:35	:43	LAB. II	: EQ16002	19-03		
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	N Rat.2
1	2,3,7,8-TCDF	4.11e+04	9.20e+02	4.5e+01	5.51e+04	1.65e+03	3.3e+01
3	2,3,4,7,8-PeCDF	3.91e+05	9.84e+02	4.0e+02	2.43e+05	1.37e+03	1.8e+02
11	2,3,7,8-TCDD	3.31e+04	1.12e+03	3.0e+01	4.21e+04	1.22e+03	3.5e+01
18	13C-2,3,7,8-TCDF	4.66e+05	4.36e+03	1.1e+02	5.65e+05	2.14e+03	2.6e+02
19	13C-1,2,3,7,8-PeCDF	8.43e+05	9.84e+02	8.6e+02	5.24e+05	1.04e+03	5.1e+02
20	13C-2,3,4,7,8-PeCDF	8.61e+05	9.84e+02	8.8e+02	5.53e+05	1.04e+03	5.3e+02
24	13C-1,2,3,7,8,9-HxCDF	6.91e+05	6.84e+02	1.0e+03	1.32e+06	1.64e+03	8.1e+02
26	13C-1,2,3,4-TCDF	*	4.36e+03	*	*	2.14e+03	*
				-			
27	13C-2,3,7,8-TCDD	3.73e+05	6.87e+03	5.4e+01	4.77e+05	3.12e+03	1.5e+02
33	13C-1,2,3,4-TCDD	5.41e+05	6.87e+03	7.9e+01	6.72e+05	3.12e+03	2.2e+02
34	13C-1,2,3,7,8,9-HxCDD	8.67e+05	1.60e+03	5.4e+02	7.17e+05	1.18e+03	6.1e+02
35	37Cl-2,3,7,8-TCDD	* j	1.58e+03	*	and the second of the second		

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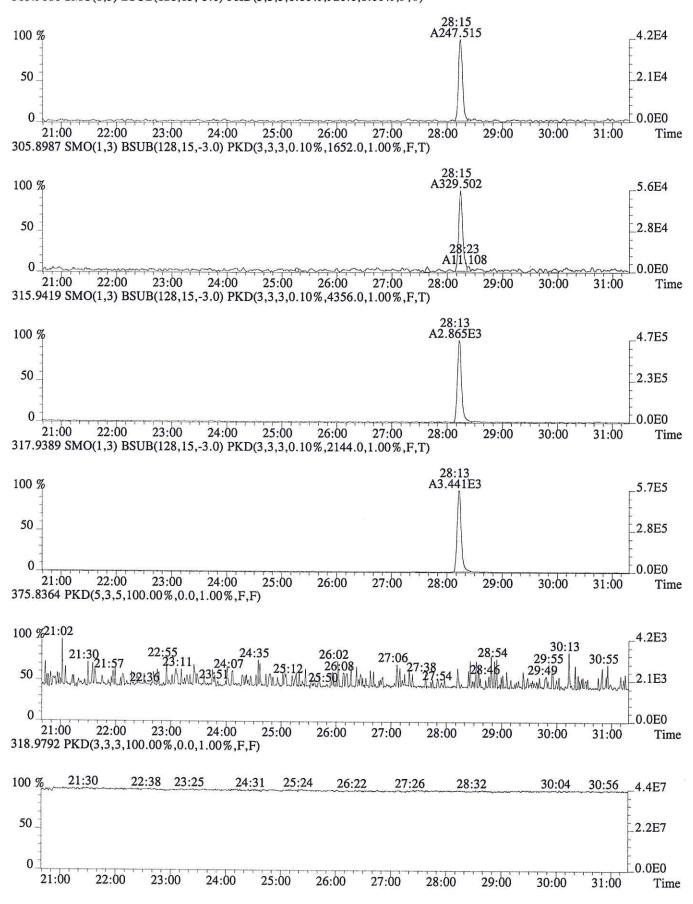
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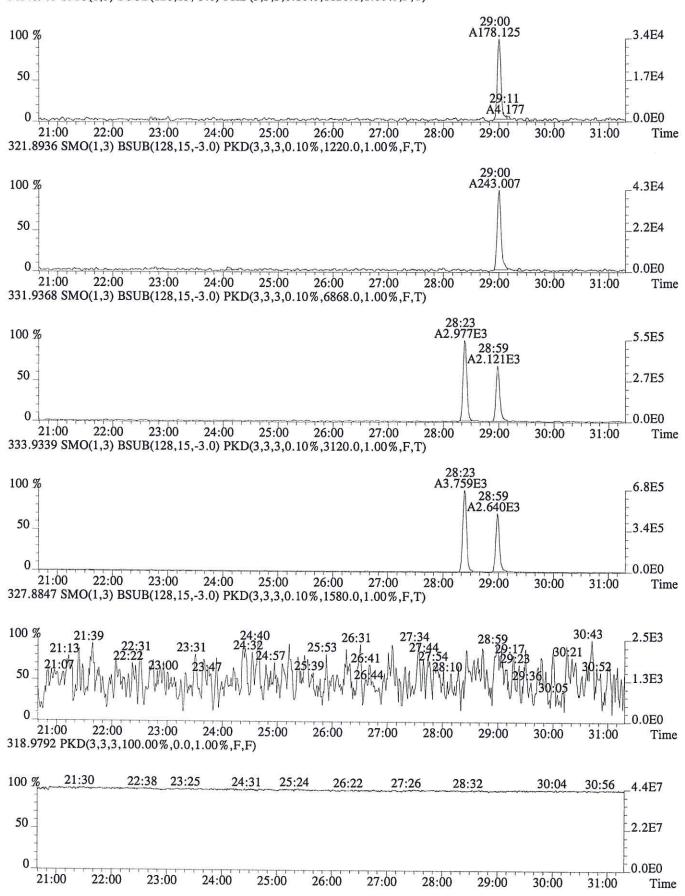
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E1600326 163 of 326 File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)

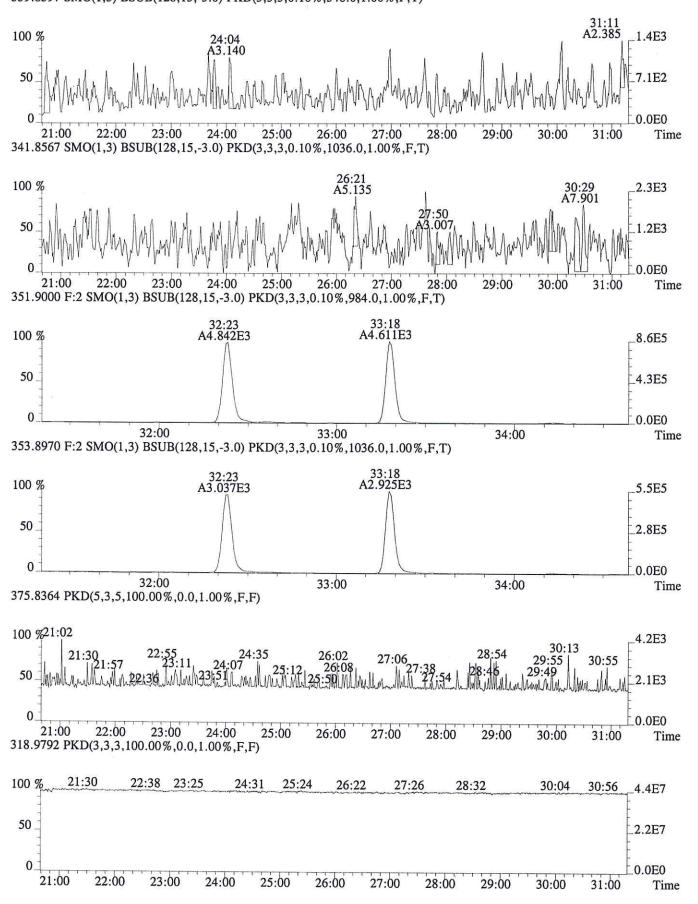


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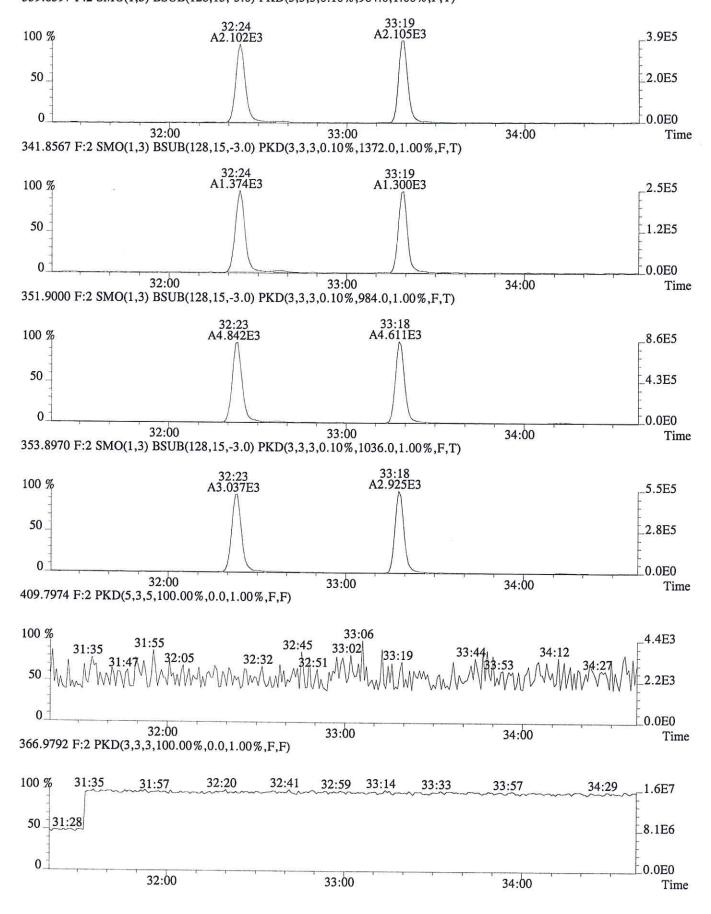
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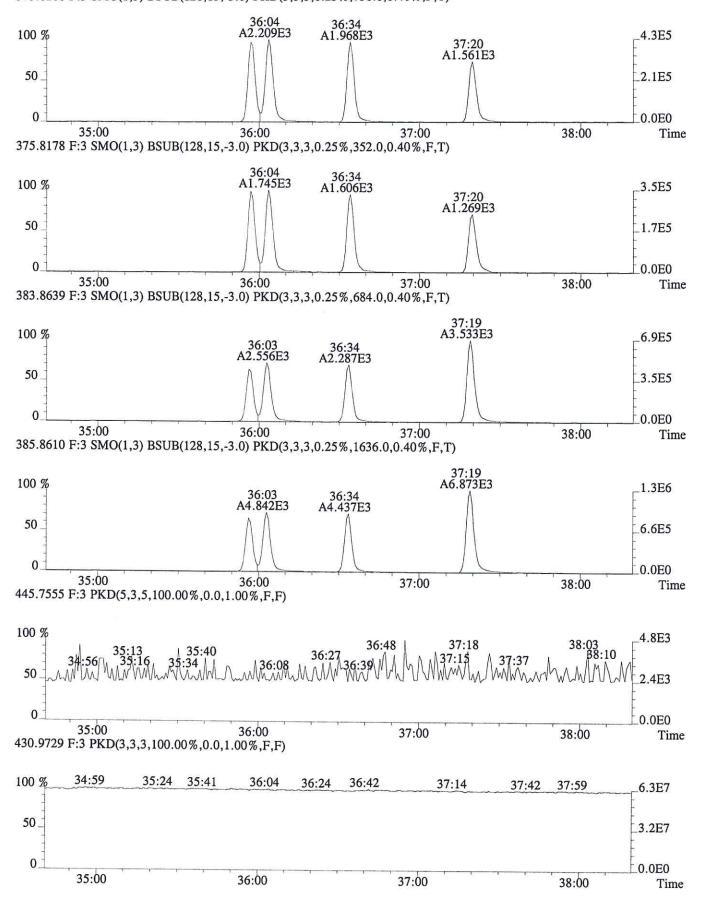
File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



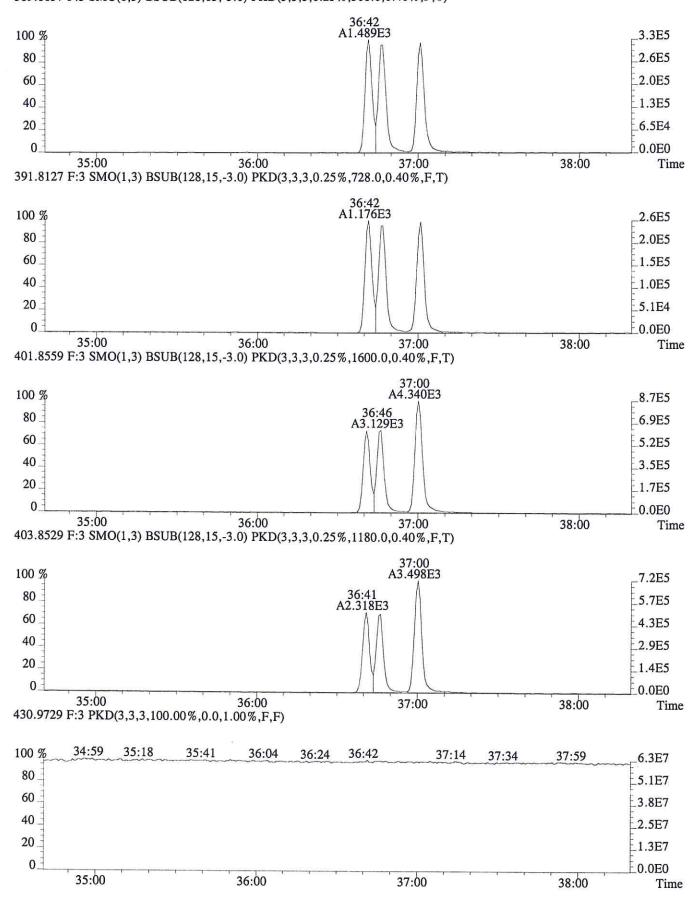
File:P604003 #1-298 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P604007 Samp: 1 Inj: 1 Acquired: 26-JUN-16 11:18:23

Processed: 7-JUL-16 08:59:10 Sample ID: EQ1600220-01

	тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:11	1.329e+04	1.716e+04	0.77	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	2.047e+04	1.287e+04	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	1.345e+04	2.657e+04	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.325
27	IS	13C-2,3,7,8-TCDD	28:57	1.038e+04	1.293e+04	0.80	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:21	4.021e+04	5.113e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:59	4.228e+04	3.388e+04	1.25	yes	no	_
35	C/Up	37C1-2,3,7,8-TCDD	28:59	6.083e+01		200	5000	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P604007 Samp: 1 Inj: 1 Acquired: 26-JUN-16 11:18:23

Processed: 7-JUL-16 08:59:10 LAB. ID: EQ1600220-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	1.06e+03	*	*	2.13e+03	*
3	2,3,4,7,8-PeCDF	*	8.60e+02	*	*	1.76e+03	*
11	2,3,7,8-TCDD	*	1.41e+03	*	*	1.39e+03	*
18	13C-2,3,7,8-TCDF	2.40e+06	5.04e+03	4.8e+02	3.12e+06	2.59e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	3.77e+06	6.60e+02	5.7e+03	2.36e+06	3.50e+03	6.8e+02
20	13C-2,3,4,7,8-PeCDF	*	6.60e+02	*	*	3.50e+03	*
24	13C-1,2,3,7,8,9-HxCDF	2.64e+06	9.60e+02	2.8e+03	5.21e+06	1.50e+03	3.5e+03
26	13C-1,2,3,4-TCDF	*	5.04e+03	*	*	2.59e+03	*
				5			
27	13C-2,3,7,8-TCDD	1.94e+06	5.98e+03	3.2e+02	2.47e+06	4.64e+03	5.3e+02
33	13C-1,2,3,4-TCDD	7.64e+06	5.98e+03	1.3e+03	9.71e+06	4.64e+03	2.1e+03
34	13C-1,2,3,7,8,9-HxCDD	8.63e+06	4.02e+03	2.1e+03	6.98e+06	2.29e+03	3.0e+03
35	37Cl-2,3,7,8-TCDD	1.20e+04	1.36e+03	8.8e+00			

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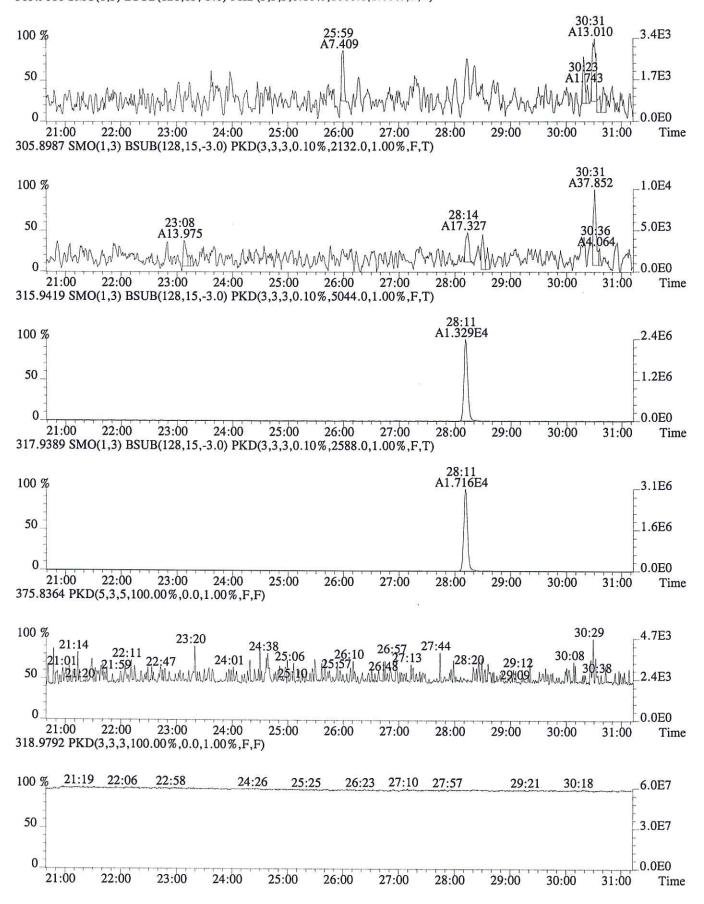
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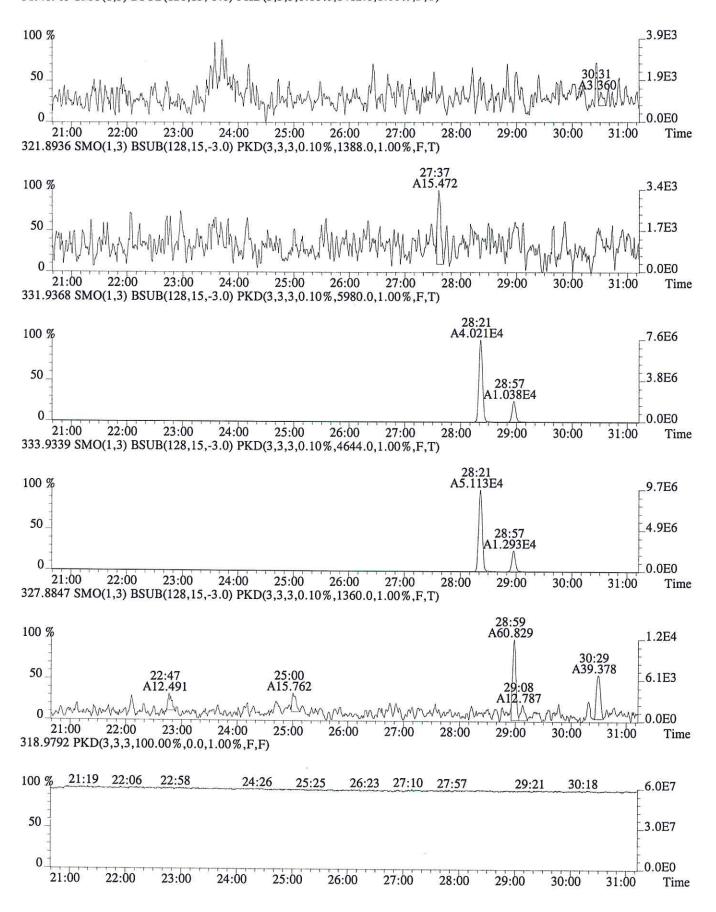
E1600326 171 of 326

File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



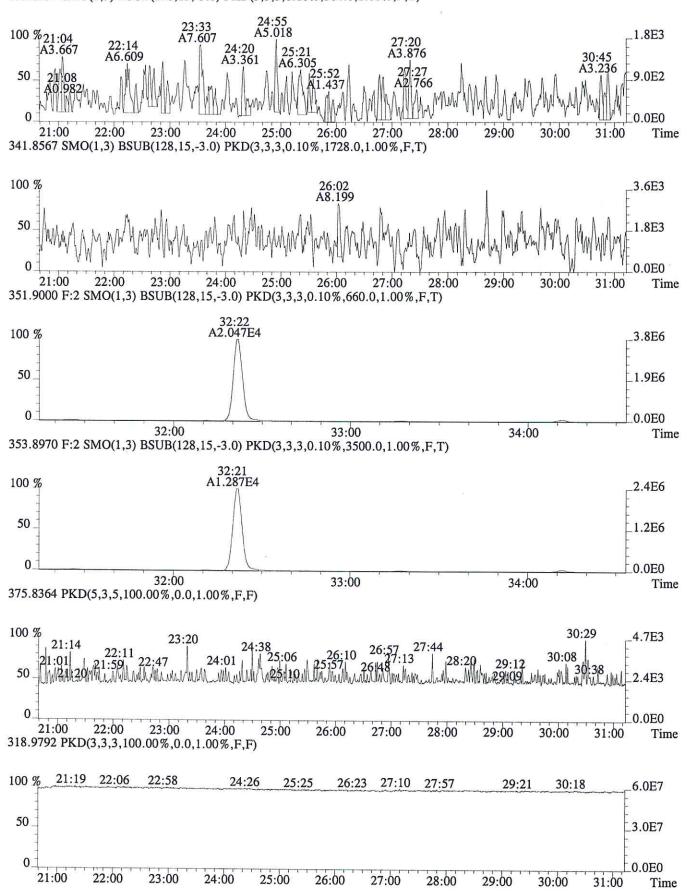
E1600326 172 of 326

File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)

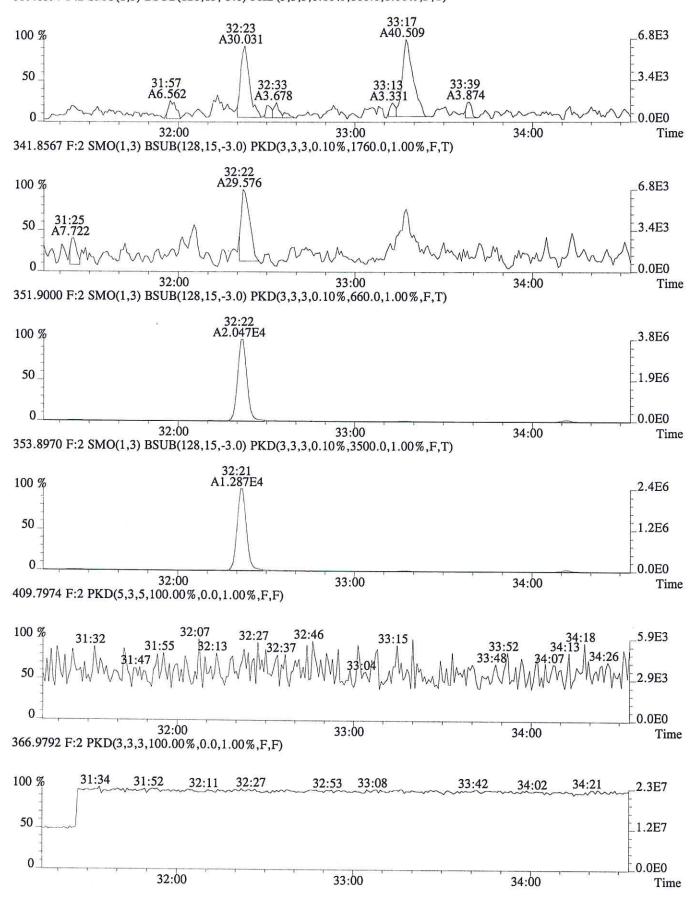


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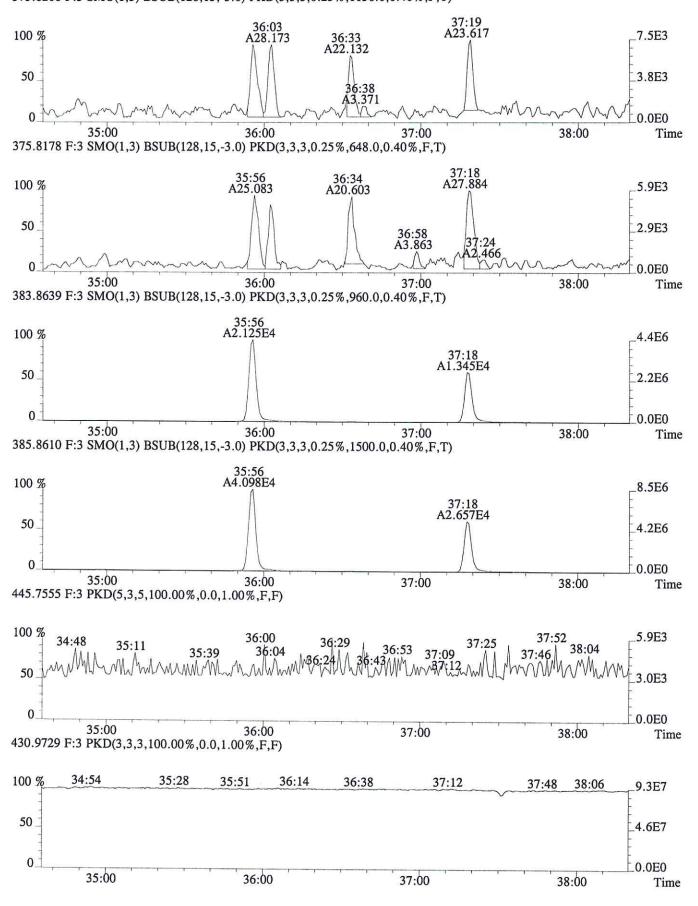
File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



File:P604007 #1-299 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)

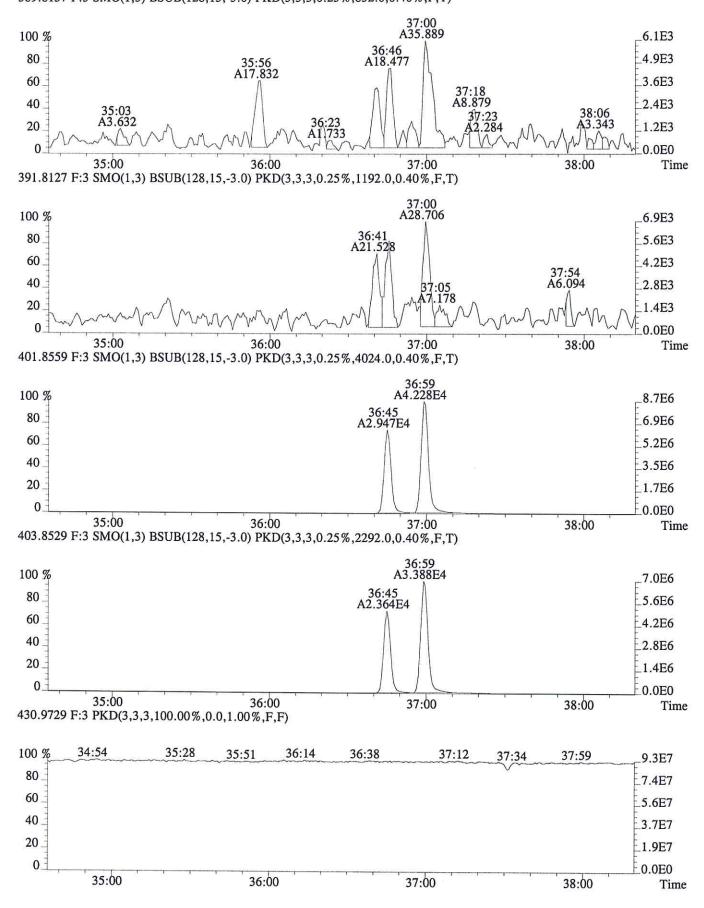


File:P604007 #1-337 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)



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File:P604007 #1-337 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #10 Filename P604016 Samp: 1 Inj: 1 Acquired: 26-JUN-16 18:59:32 Processed: 7-JUL-16 08:59:11 Sample ID: EQ1600220-02

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk Unk IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:18 28:58 28:11 32:21 NotFnd 37:18	2.611e+03 2.259e+04 2.329e+03 1.443e+04 2.436e+04 * 1.849e+04	3.524e+03 1.466e+04 2.902e+03 1.841e+04 1.556e+04 *	0.74 yes 1.54 yes 0.80 yes 0.78 yes 1.57 yes * no 0.52 yes * no	no no no no no yes no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:21 36:59	1.086e+04 3.800e+04 4.476e+04 1.319e+02	1.379e+04 4.825e+04 3.553e+04	0.79 yes 0.79 yes 1.26 yes	no no no no	0.929 - - 0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. LCS

Run	#10 Filename P604016	Sam	p: 1 In	ıj: 1	Acquired:	26-JUN-16	18:59:32
Proc	essed: 7-JUL-16 08:59	:11	LAB. II	: EQ16002	20-02		
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
		31		D, 11 11010 1 II	10-3		/
1	2,3,7,8-TCDF	4.73e+05	1.26e+03	3.8e+02	6.35e+05	2.66e+03	2.4e+02
3	2,3,4,7,8-PeCDF	4.39e+06	1.77e+03	2.5e+03	2.88e+06	9.32e+02	3.1e+03
11	2,3,7,8-TCDD	4.31e+05	1.52e+03	2.8e+02	5.38e+05	1.20e+03	4.5e+02
18	13C-2,3,7,8-TCDF	2.67e+06	5.78e+03	4.6e+02	3.39e+06	3.48e+03	9.7e+02
19	13C-1,2,3,7,8-PeCDF	4.63e+06	1.86e+03	2.5e+03	2.96e+06	1.70e+03	1.7e+03
20	13C-2,3,4,7,8-PeCDF	*	1.86e+03	*	*	1.70e+03	*
24	13C-1,2,3,7,8,9-HxCDF	3.84e+06	1.06e+03	3.6e+03	7.49e+06	2.02e+03	3.7e+03
26	13C-1,2,3,4-TCDF	*	5.78e+03	*	*	3.48e+03	*
27	13C-2,3,7,8-TCDD	2.13e+06	8.33e+03	2.6e+02	2.69e+06	3.92e+03	6.9e+02
33	13C-1,2,3,4-TCDD	7.36e+06	8.33e+03	8.8e+02	9.30e+06	3.92e+03	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	9.74e+06	1.88e+03	5.2e+03	7.82e+06	1.24e+03	6.3e+03
35	37Cl-2,3,7,8-TCDD	2.45e+04	1.99e+03	1.2e+01		*	

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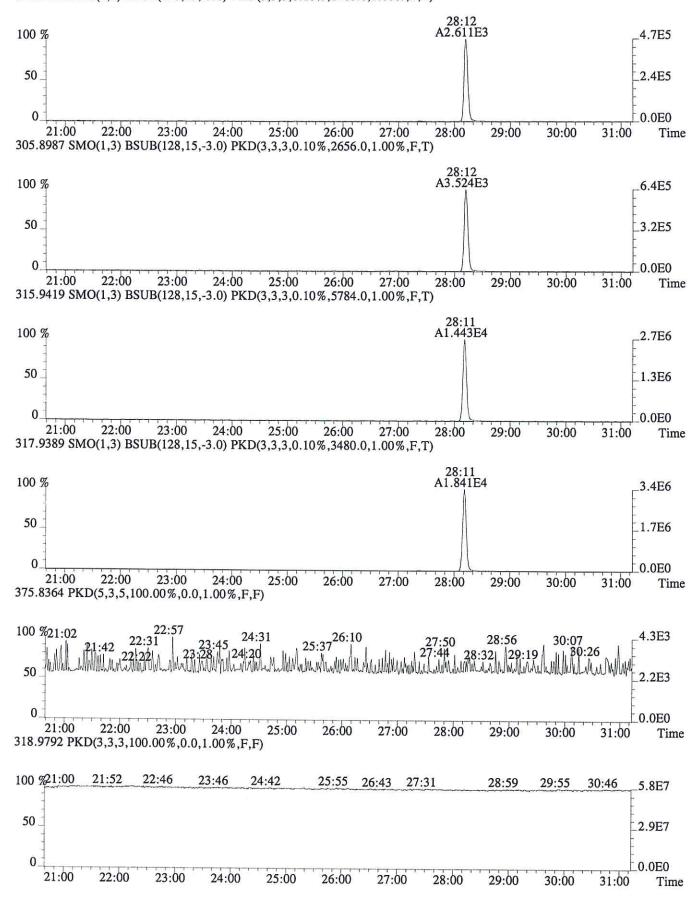
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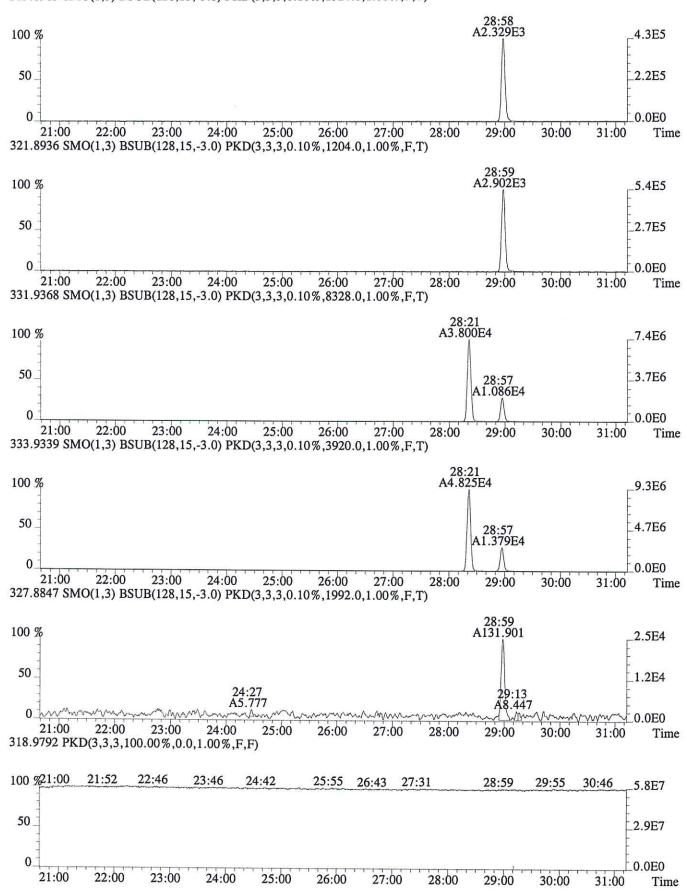
E1600326 179 of 326

File:P604016 #1-749 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)

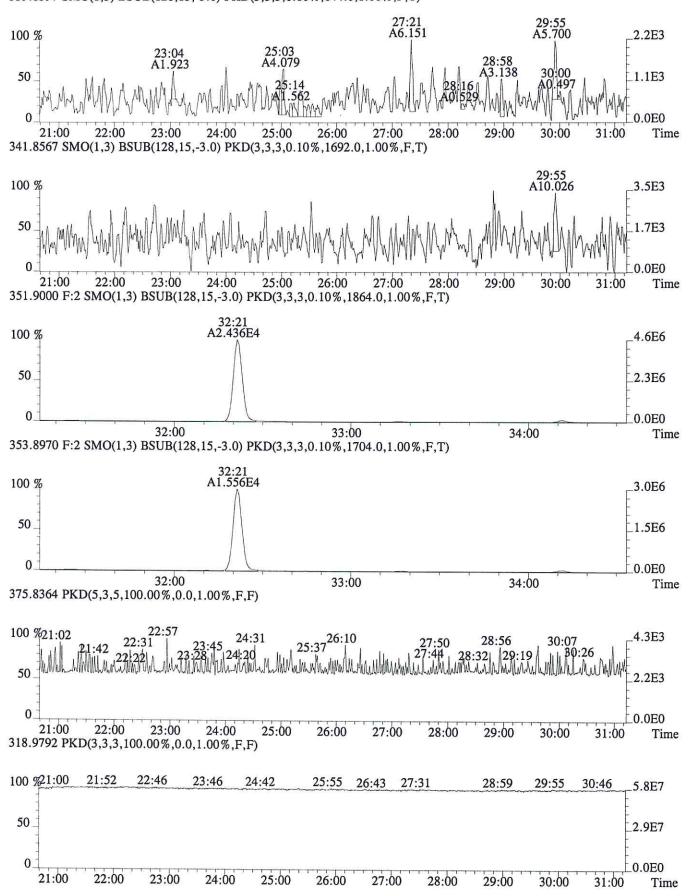


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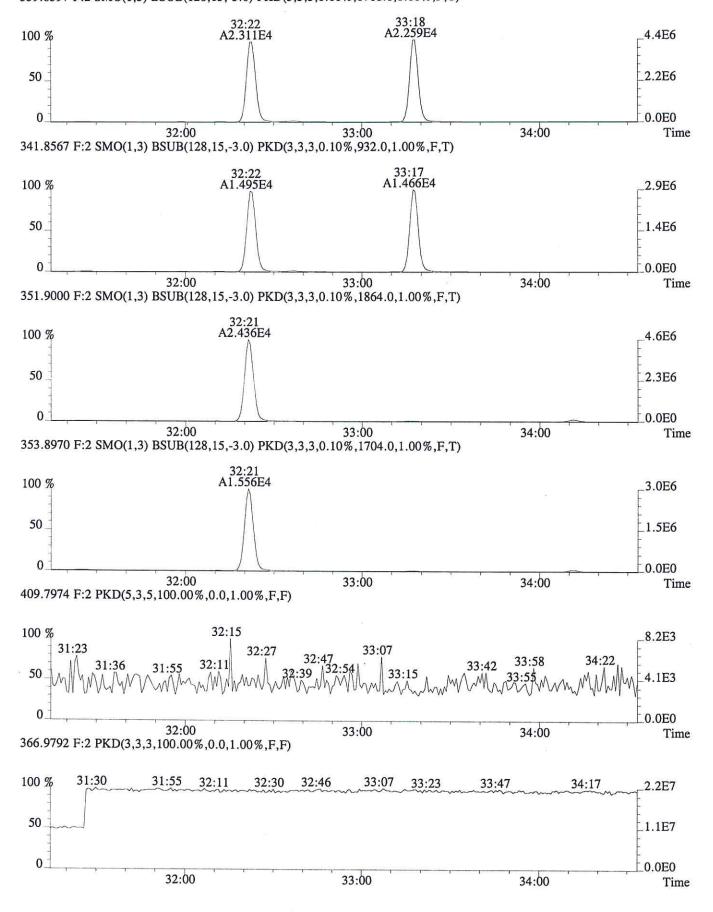
File:P604016 #1-749 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



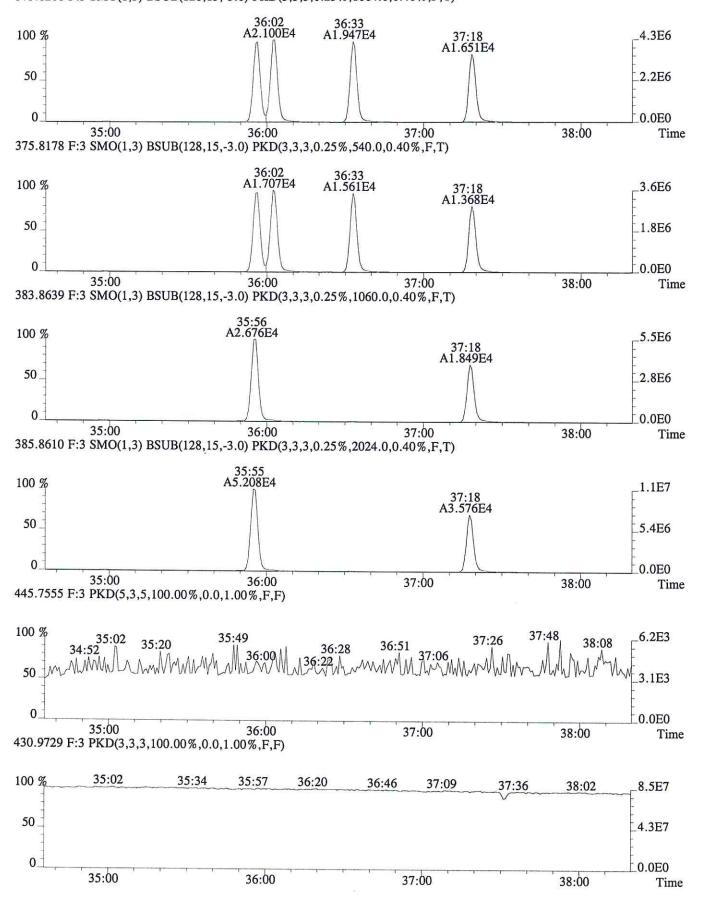
File:P604016 #1-749 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



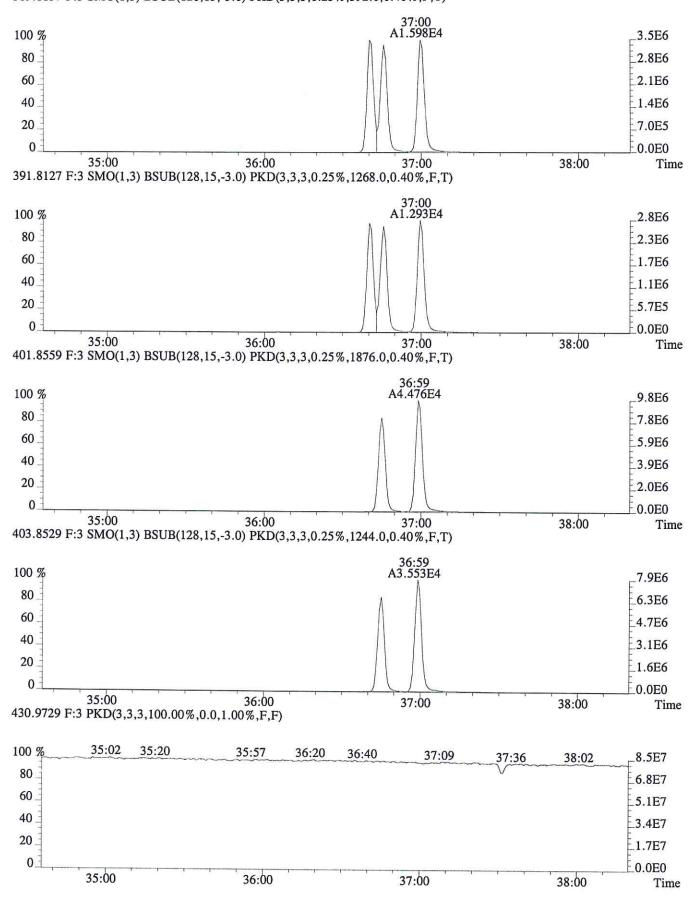
File:P604016 #1-299 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1768.0,1.00%,F,T)



File:P604016 #1-337 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



File:P604016 #1-337 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,592.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #11 Filename P604017 Samp: 1 Inj: 1 Acquired: 26-JUN-16 19:48:33 Processed: 7-JUL-16 08:59:12 Sample ID: EQ1600220-03

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:13	3.963e+02	5.017e+02	0.79	yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:18	3.387e+03	2.195e+03	1.54	yes	no	0.929
11	Unk	2,3,7,8-TCDD	28:59	3.177e+02	4.162e+02	0.76	yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:11	1.977e+03	2.589e+03	0.76	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	3.624e+03	2.342e+03	1.55	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.227e+03	6.436e+03	0.50	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.325
					•				
27	IS	13C-2,3,7,8-TCDD	28:58	1.569e+03	1.956e+03	0.80	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	5.153e+03	6.578e+03	0.78	yes	no	
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:59	8.149e+03	6.718e+03	1.21	yes	no	ļ -
35	C/Up	37Cl-2,3,7,8-TCDD	28:58	2.189e+01		re t		no	0.945

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Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. DLCS

Run	#11 Filename P604017	Sam	p: 1 Ir	ıj: 1	Acquired:	26-JUN-16	19:48:33
Proc	essed: 7-JUL-16 08:59	1:12	LAB. II	D: E016002	20-03		
				~			
	Name	Signal 1	Noise 1	S/N Rat 1	Signal 2	Noise 2 Is	/N Rat 2
	zvame	orginar r	NOIDC I	D/W Rac. 1	Dignar 2	NOIDE Z D	/IV Rac.z
1	2,3,7,8-TCDF	7.50e+04	1.12e+03	6.7e+01	8.46e+04	3.27e+03	2.6e+01
3	2,3,4,7,8-PeCDF	6.91e+05	1.37e+03		4.33e+05	2.52e+03	1.7e+02
11	2,3,7,8-TCDD		1.65e+03		8.14e+04	9.20e+02	8.8e+01
18	the second of th	and the second second by	- 기계대로 중기적으로 가다운 중기				
	13C-2,3,7,8-TCDF	3.53e+05	6.04e+03	5.9e+01	4.52e+05	3.39e+03	1.3e + 02
19	13C-1,2,3,7,8-PeCDF	6.76e+05	6.60e+02	1.0e+03	4.38e+05	1.31e+03	3.3e + 02
20	13C-2,3,4,7,8-PeCDF	*	6.60e+02	*	*	1.31e+03	*
24	13C-1,2,3,7,8,9-HxCDF	6.75e+05	8.04e+02	8.4e+02	1.36e+06	1.62e+03	8.4e+02
26	13C-1,2,3,4-TCDF	*	6.04e+03	*	*	3.39e+03	*
					•		
27	13C-2,3,7,8-TCDD	2.88e+05	8.47e+03	3.4e+01	3.59e+05	3.44e+03	1.0e+02
33	13C-1,2,3,4-TCDD	9.77e+05	8.47e+03	1.2e+02	1.22e+06	3.44e+03	3.6e+02
34	13C-1,2,3,7,8,9-HxCDD	1.74e+06	1.77e+03	9.8e+02	1.42e+06	1.75e+03	8.1e+02
35	37Cl-2,3,7,8-TCDD	4.59e+03	2.03e+03	2.3e+00		,	

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

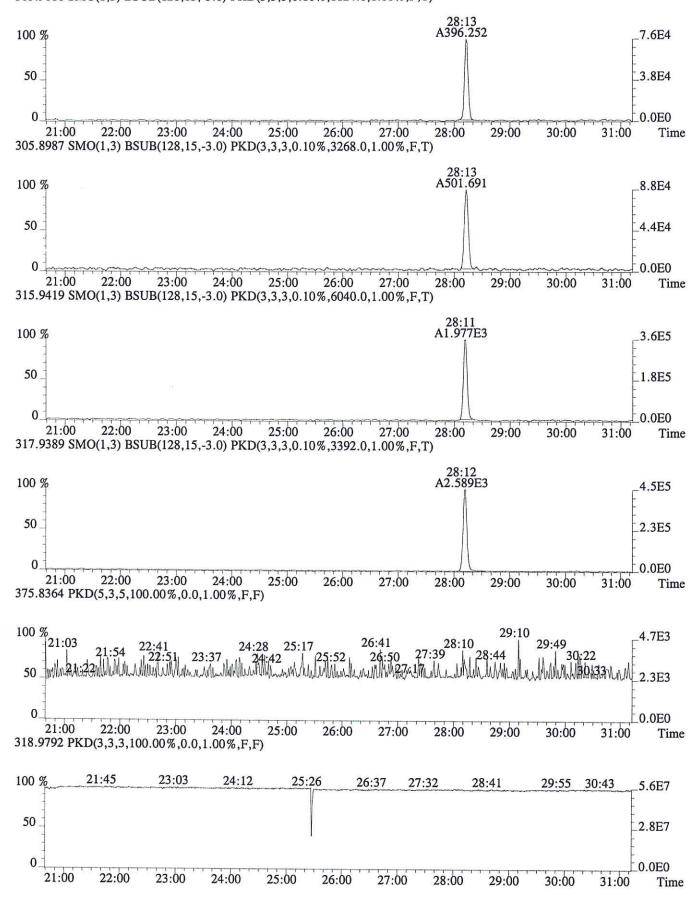
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

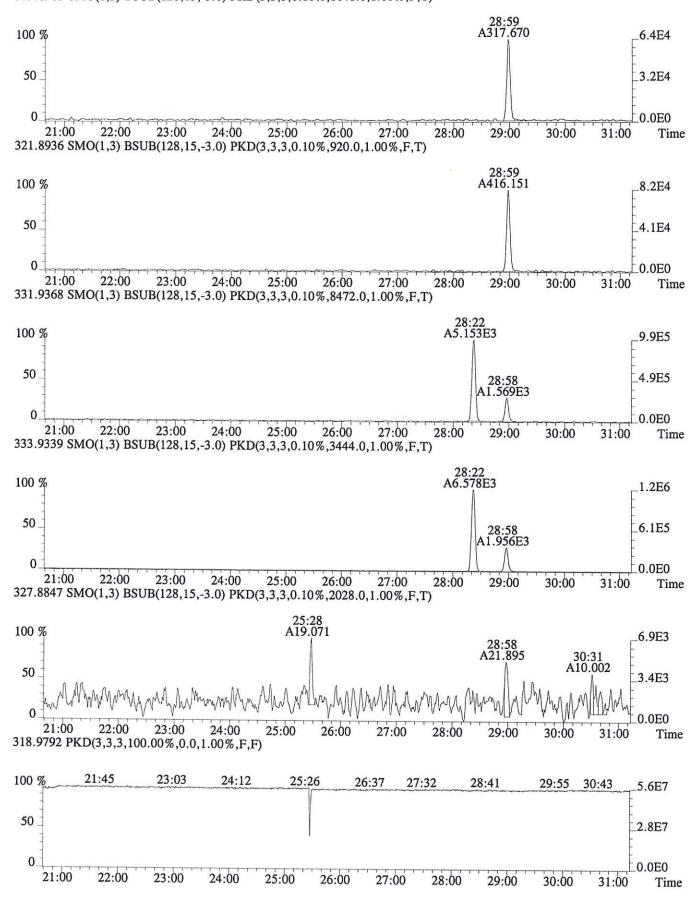
E1600326 187 of 326

File:P604017 #1-749 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)

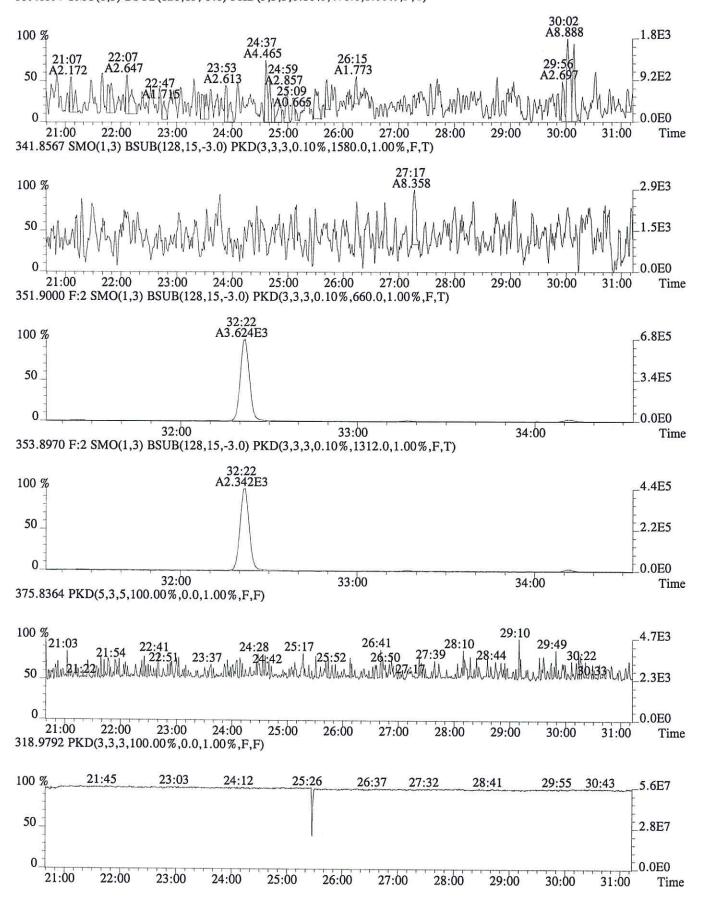


E1600326 188 of 326

File:P604017 #1-749 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1648.0,1.00%,F,T)

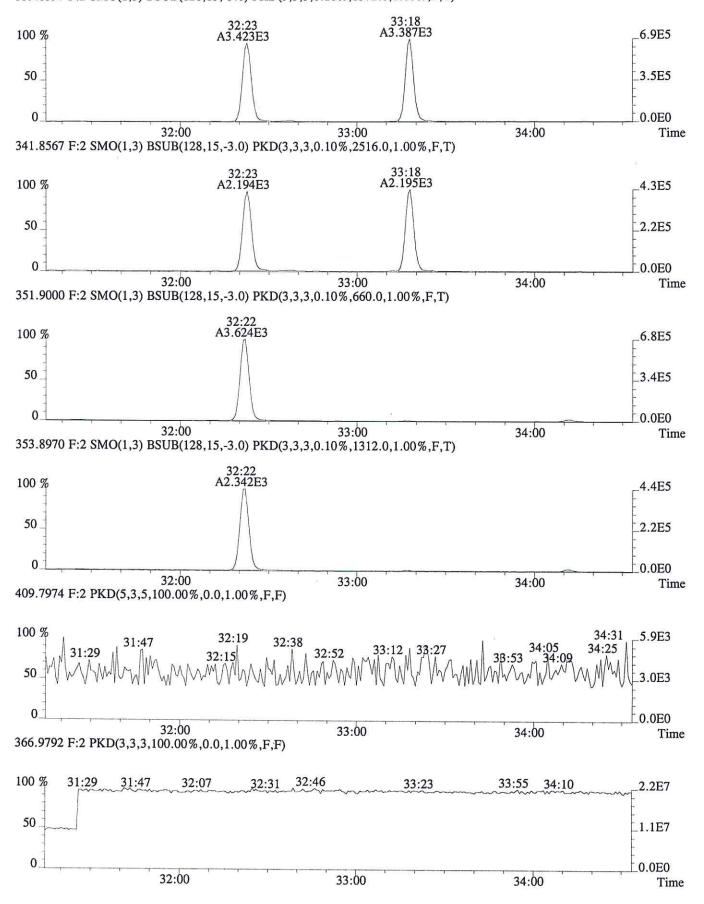


File:P604017 #1-749 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,T)

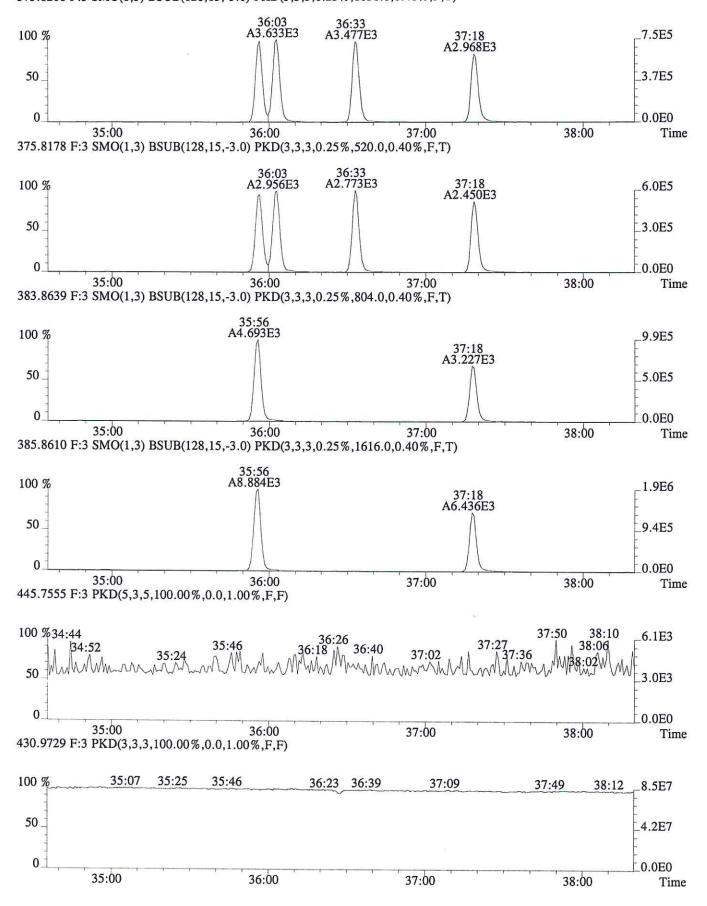


E1600326 190 of 326

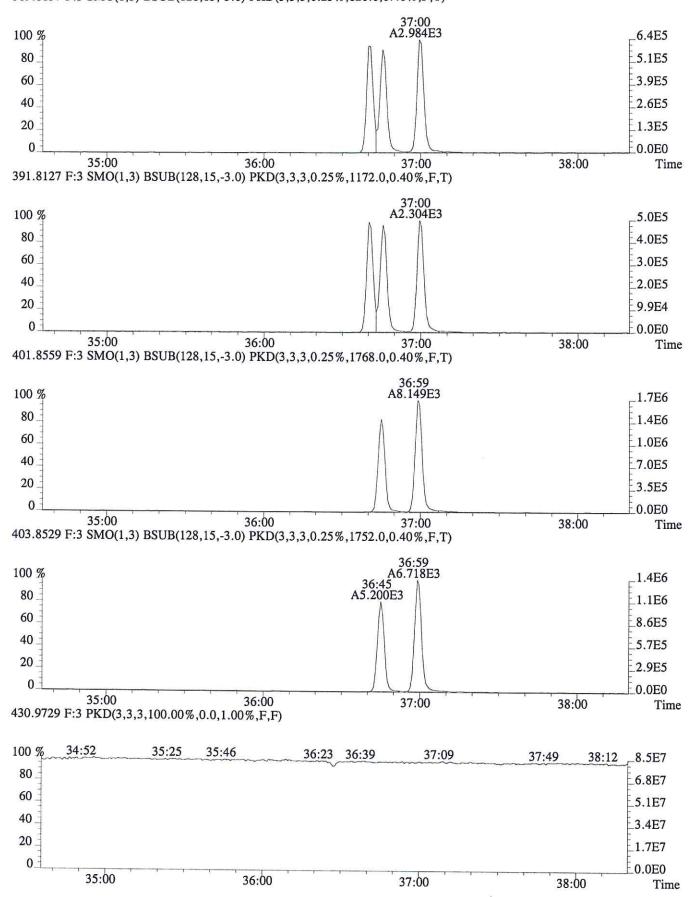
File:P604017 #1-299 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,T)



File:P604017 #1-337 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,T)



File:P604017 #1-337 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)





Continuing Calibration

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P603991 Date: 6PME) 0625116-062011	Beginning Circle or	ne: Ending
Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD O		f / 8280 / M23 / TO-9A
Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled		/
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters		
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)		**
CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria		
All relative abundance ratios meet method criteria	V	
No QC ion deflections of greater than 20% (HRMS Only)		
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	V	
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column		
Signal-to-noise of all target analytes and their labeled standards at least 10:1		
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	OA	NA
Ending Calibration injected prior to end of 12 hour clock	NA	NA
Analyst:ccalqc.xls 07/17/12	Second QC:	KL

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USEPA - CLP

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.: Client No.: SDG No.:

Page 1 of

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib.Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

777.7		2000		
EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
=======================================	==============		=======================================	========
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
BAD INJECTION	EQ1600219-01*	P603992	25-JUN-16	18:59:09
METHOD BLANK	EQ1600219-01	P603993	25-JUN-16	19:48:09
04052016SJPW10	E1600282-006	P603994	25-JUN-16	20:37:12
03162016SJGW1	E1600326-001	P603995	25-JUN-16	21:26:14
04072016SJGW1	E1600326-002	P603996	25-JUN-16	22:15:14
04072016SJGW2	E1600326-003	P603997	25-JUN-16	23:04:16
04072016SJGW10	E1600326-004	P603998	25-JUN-16	23:53:17
04072016SJGW11	E1600326-005	P603999	26-JUN-16	00:42:18
04072016SJGW12	E1600326-006	P604000	26-JUN-16	01:31:21
04072016SJGW13	E1600326-007	P604001	26-JUN-16	02:20:22

FORM V-HR CDD-3

DLM02.0(5/05)

E1600326 196 of 326

Page 1 of USEPA - CLP

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	===========	=========	.==========	========
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
LCS	EQ1600219-02	P604002	26-JUN-16	03:09:23
DLCS	EQ1600219-03	P604003	26-JUN-16	03:58:24

FORM V-HR CDD-3

DLM02.0(5/05)

E1600326

Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List:

C:\MassLynx\EHRMS08.PRO\SampleDB\20160625B.SPL

Last Modified:

Friday, July 01, 2016 08:52:16 Eastern Daylight Time

Printed:

Friday, July 01, 2016 08:52:25 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

opus4: P603991res; P603991res2

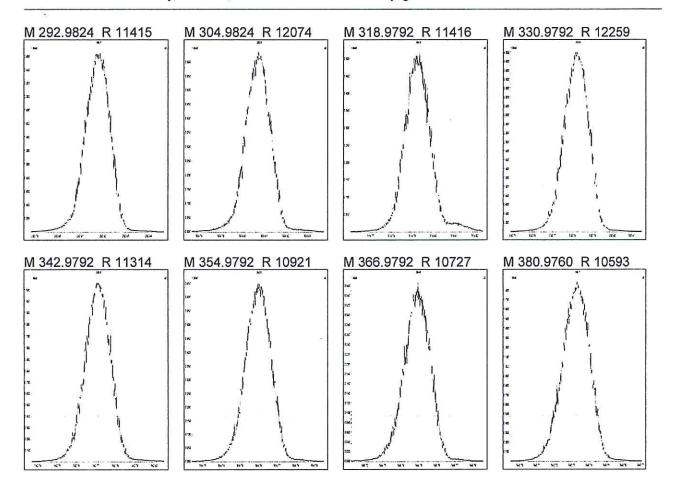
	Dete	Time	Tile Messes	I - 1 0 1 - 1D	OI: 4 E'' E 4	5				- ,
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	06/25/16	17:21	P603990	87077	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LKL	HRMS check 16:28
2		18:10	P603991	173638	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		19:59	P603992	EQ1600219-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		Bad injection
4		19:48	P603993	EQ1600219-01	MB	Tray1:4	EPA1613 ALS	Dioxin ALS		
5		20:31	P603994	E1600282-006	E1600282-006	Tray1:5	EPA1613_ALS	Dioxin_ALS		
6		_alia6	P603995	E1600326-001	E1600326-001	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		22:15.	P603996	E1600326-002	E1600326-002	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8		23:04	P603997	E1600326-003	E1600326-003	Tray1:8	EPA1613_ALS	Dioxin_ALS		
9	,\ldv_,	2353	P603998	E1600326-004	E1600326-004	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10	06/26/16	00142	P603999	E1600326-005	E1600326-005	Tray1:10		Dioxin_ALS		
11		01:31	P604000	E1600326-006	E1600326-006	Tray1:11		Dioxin ALS		
12		02:20	P604001	E1600326-007	E1600326-007		EPA1613 ALS	Dioxin_ALS		
13		03109.	P604002	EQ1600219-02	LCS	Tray1:13	EPA1613 ALS	Dioxin ALS		
14		03:09	P604003	EQ1600219-03	DLCS	Tray1:14	EPA1613_ALS	Dioxin_ALS		
15	<u> </u>	04:55	P604004	173638	CS3		EPA1613 ALS	Dioxin_ALS		HRMS check 08121
16						Tray1:16	EPA1613_ALS	Dioxin_ALS		
17						Tray1:17	EPA1613_ALS	Dioxin_ALS		
18						Tray1:18	EPA1613_ALS	Dioxin_ALS		K
19						Tray1:19		Dioxin_ALS		
20					(5000)	Tray1:20	EPA1613_ALS	Dioxin_ALS		
21			^			Tray1:21	EPA1613_ALS	Dioxin_ALS		
22			- ()			Tray1:22		Dioxin_ALS		
23			1 1/	11		Tray1:23	EPA1613_ALS	Dioxin_ALS		
24			(1)	`-J		Tray1:24	EPA1613_ALS	Dioxin_ALS		
25			4	- 1 1		Tray1:25	EPA1613_ALS	Dioxin_ALS		
26				ATI MILL		Tray1:26	EPA1613_ALS	Dioxin_ALS		
27			111	(+///)	Λ	Tray1:27	EPA1613_ALS	Dioxin_ALS		
28			V (ナロロル)	Tray1:28	EPA1613_ALS	Dioxin_ALS	-	
29	(##E					Tray1:29	EPA1613_ALS	Dioxin_ALS		NAME OF THE PARTY
30						Tray1:30		Dioxin_ALS		
31						Tray1:31	EPA1613_ALS	Dioxin_ALS		
32						Tray1:32		Dioxin_ALS		
33						Tray1:33		Dioxin_ALS		
34		Section 1				Tray1:34		Dioxin_ALS		
35						Tray1:35	EPA1613_ALS	Dioxin_ALS		
36	-					Tray1:36	EPA1613_ALS	Dioxin_ALS	-	
37					× 	Tray1:37	EPA1613_ALS	Dioxin_ALS) ((())) (()	
38						Tray1:38	EPA1613_ALS	Dioxin_ALS		
39						Tray1:39	EPA1613_ALS	Dioxin_ALS		
						227				

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time



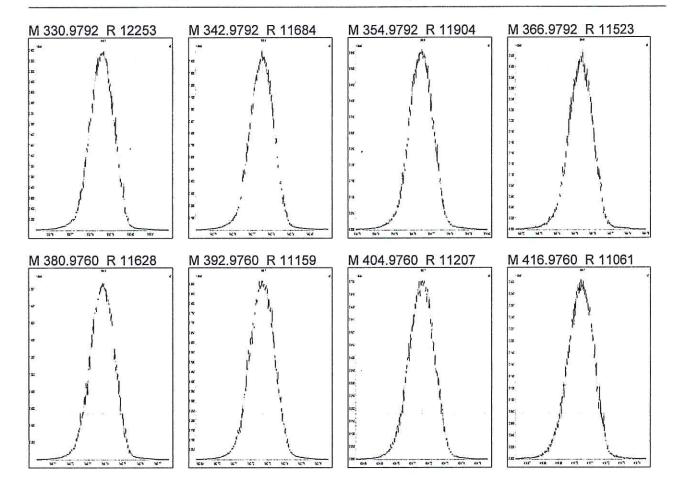
E1600326 199 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



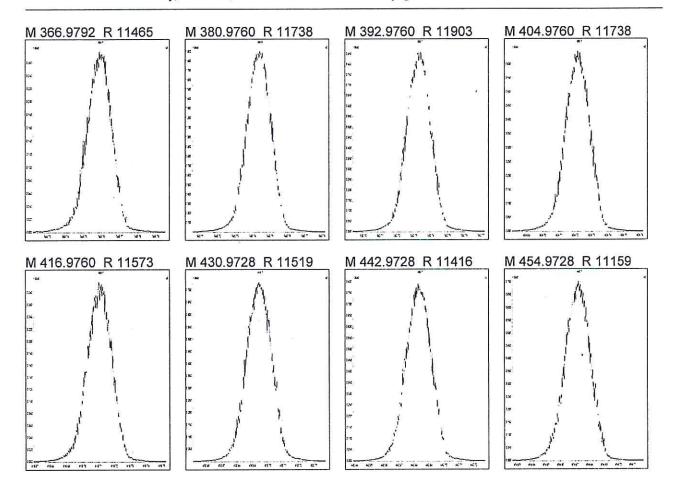
E1600326 200 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



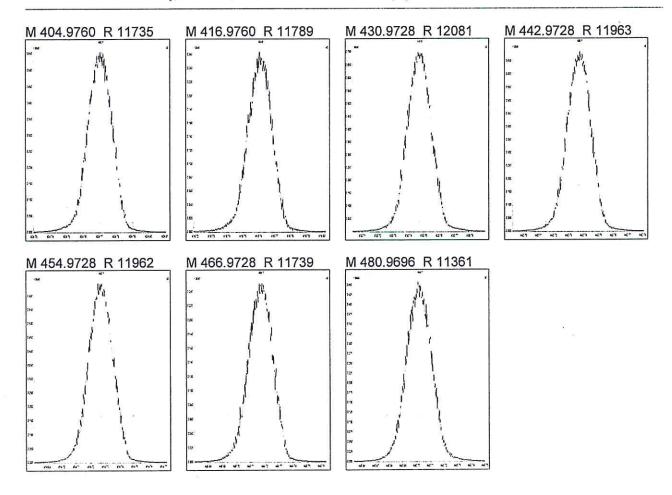
E1600326 201 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

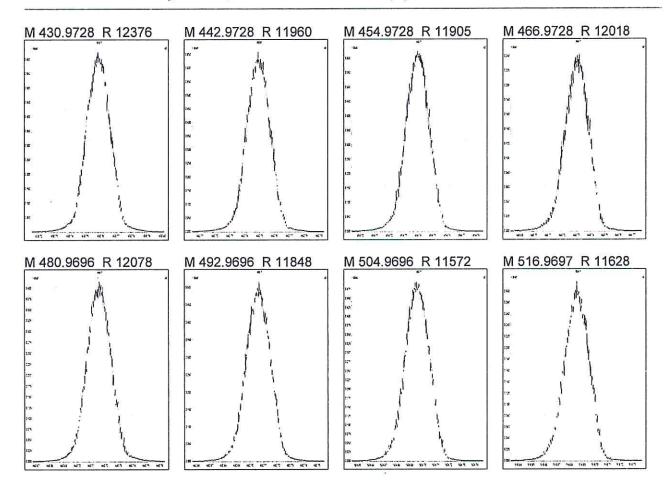
Saturday, June 25, 2016 16:32:13 Eastern Daylight Time



E1600326 202 of 326

File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



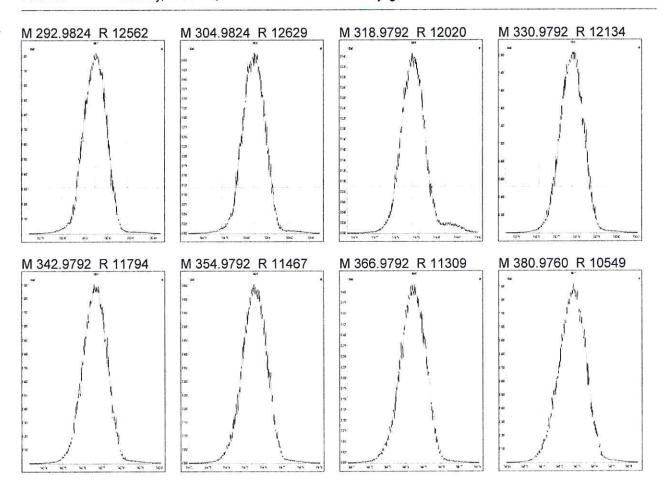
E1600326 203 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:21:50 Eastern Daylight Time



E1600326 204 of 326

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

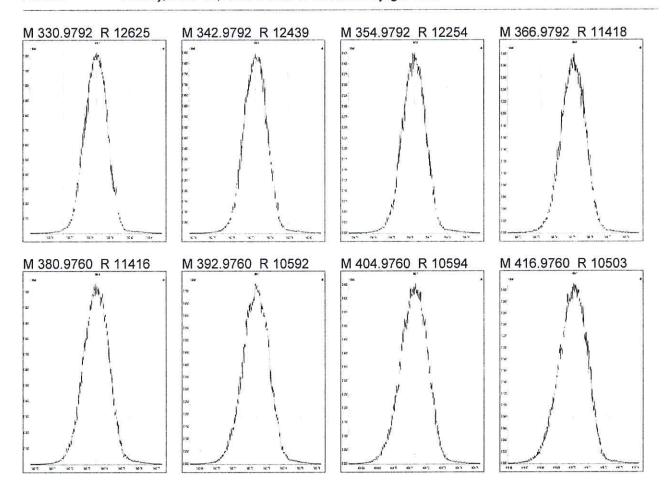
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:23:16 Eastern Daylight Time



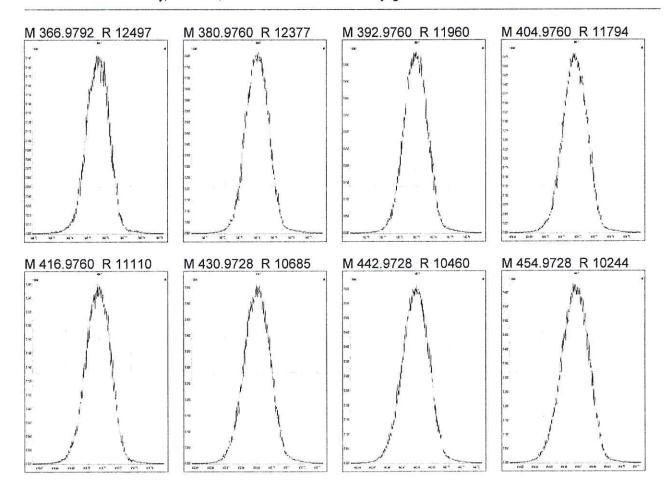
E1600326 205 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:24:38 Eastern Daylight Time



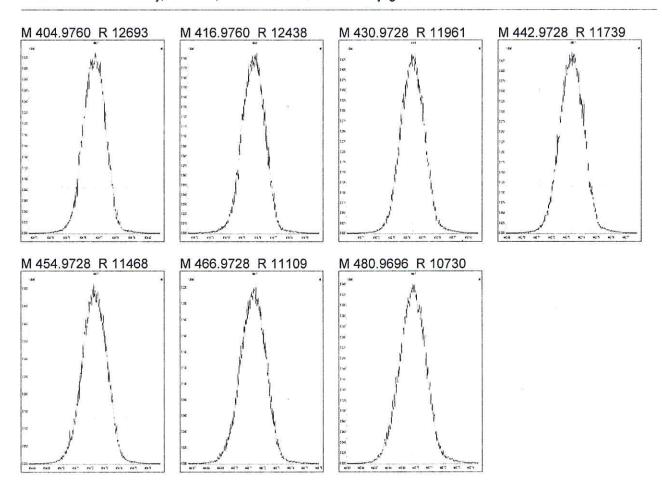
E1600326 206 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:25:52 Eastern Daylight Time



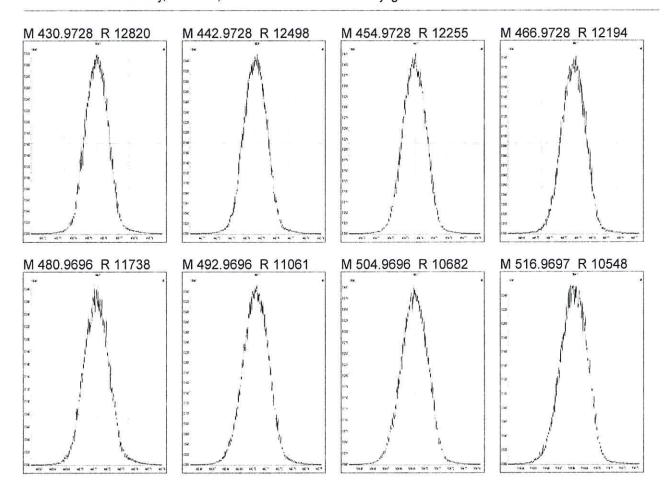
E1600326 207 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:27:02 Eastern Daylight Time



E1600326 208 of 326

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID: WDM

Lab Name: ALS Environmental Lab Code: ALSTX

GC Column: DB-5MSUI

____ SDG No.: Case No.:

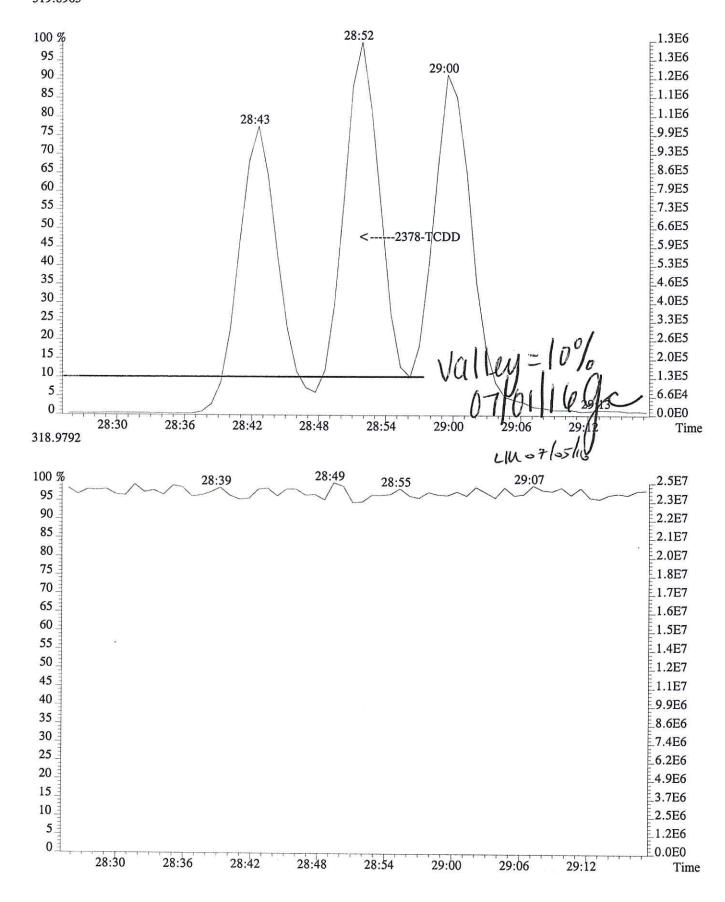
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Date Analyzed: 25-JUN-2016 Time Analyzed: 17:21:07

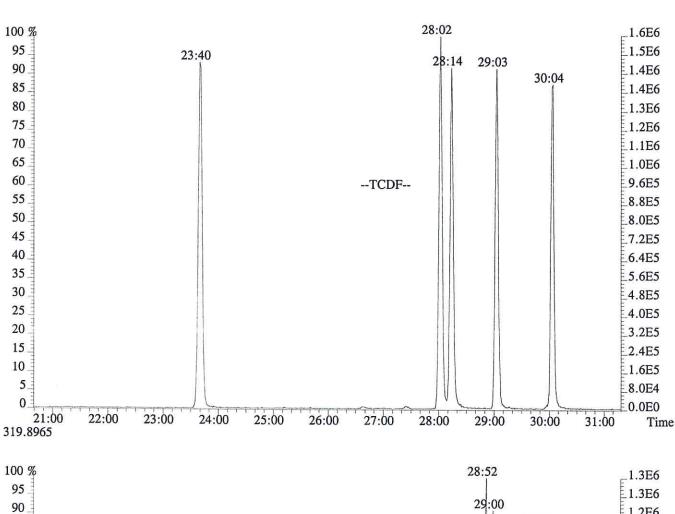
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:40	30:04
TCDD	25:32	29:52
PeCDF	29:56	34:13
PeCDD	31:29	33:57
HxCDF	34:50	37:22
HxCDD	35:21	36:56

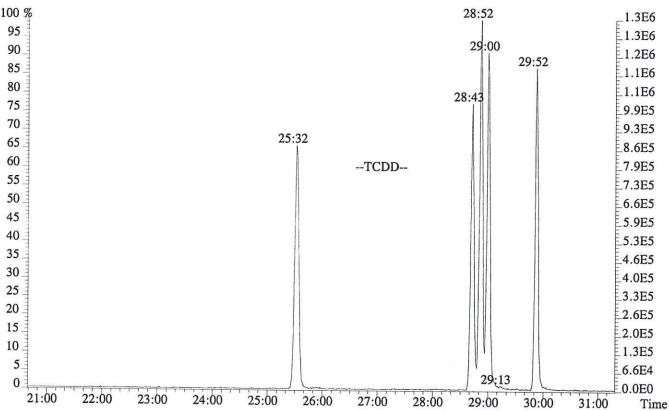
[%] Valley 2378-TCDD:

^{10 %}



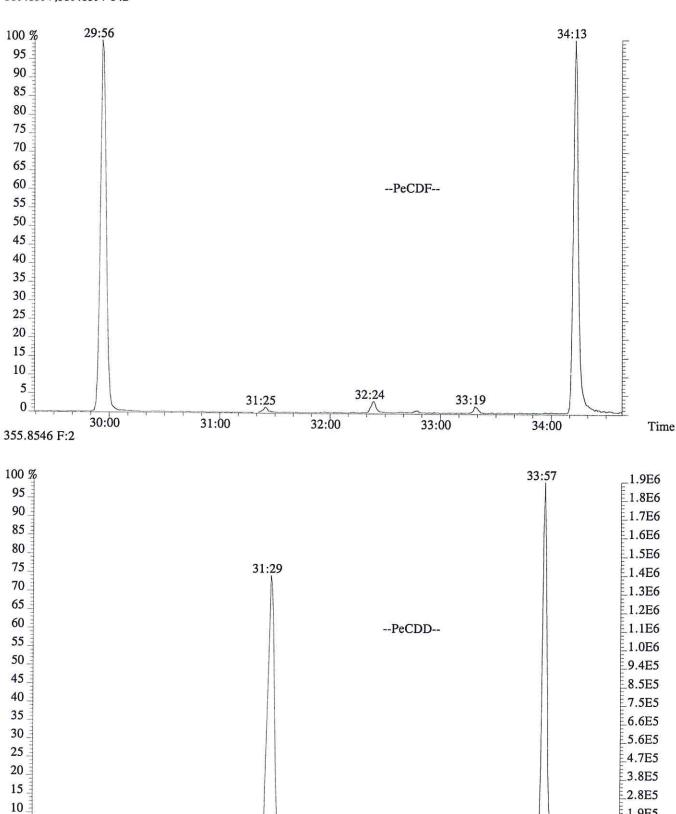
File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016





E1600326 211 of 326

File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



32:00

1.9E5

9.4E4

0.0E0

Time

33:35

33:00

34:00

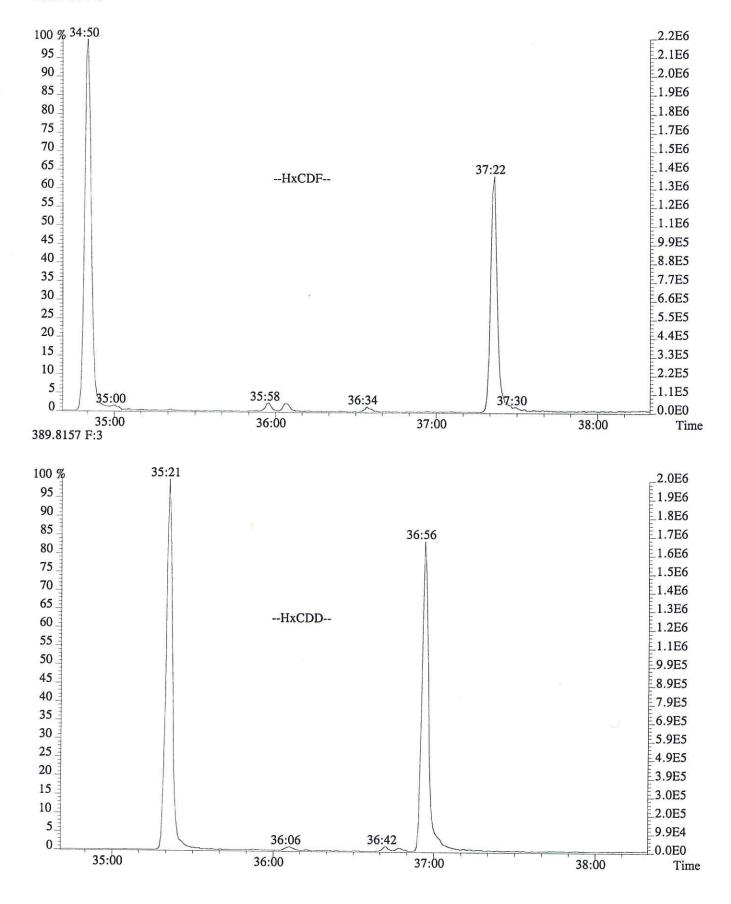
E1600326 212 of 326

31:00

30:00

5

File:P603990 #1-329 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	4.7	3.9 - 6.45	-6.5
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	4.9	4.2 - 6.0	-1.2
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25.0	20.5 - 30.5	0.0

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.
- (4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/-20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290 12/2012 1613F4A.FRM

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SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	51	41 - 60.5	1.9
13C-1,2,3,4-TCDF	M/M+2	0.78	0.65-0.89	40	35.5-70	-20.5
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.80 1.59	0.65-0.89 1.32-1.78	49 50	35.5-70 38 - 65	-1.2 -0.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	50	38.5 - 65	-0.8
13C-1,2,3,7,8,9-HxCD	ਦ	0.51	0.43-0.59	50	37 - 67.5	0.5
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	2.4

(4)

12/2012 1613F4B.FRM

E1600326 215 of 326

⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

Run #6	Filename P603991	Samp:	1 Inj: 1	Acquired:	25-JUN-16 1	8:10:07	7
Processed	: 1-JUL-16 11:44:17	Sa	mple ID: CS3				
Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	1	7.317e+03	9.442e+03	0.77 yes	no	0.957
3 Unk	2,3,4,7,8-PeCDF	33:19	5.372e+04	3.478e+04	1.54 yes	no	0.929
11 Unk	2,3,7,8-TCDD	29:00	5.621e+03	7.353e+03	0.76 yes	no	1.048
18 IS	13C-2,3,7,8-TCDF	28:12	7.876e+04	9.855e+04	0.80 yes	no	1.283
19 IS	13C-1,2,3,7,8-PeCDF	32:23	1.179e+05	7.427e+04	1.59 yes	no	1.381
20 IS	13C-2,3,4,7,8-PeCDF	33:18	1.170e+05	7.340e+04	1.59 yes	no	1.371
24 IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.766e+04	7.400e+04	0.51 yes	no	0.875
26 IS	13C-1,2,3,4-TCDF	26:58	6.477e+04	8.258e+04	0.78 yes	yes	1.325
27 IS	13C-2,3,7,8-TCDD	28:58	5.848e+04	7.390e+04	0.79 yes	lno	0.929
33 RS/RT	13C-1,2,3,4-TCDD	28:23	6.187e+04	7.805e+04	0.79 yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	7.014e+04	5.687e+04	1.23 yes	no	i
35 C/Up	37C1-2,3,7,8-TCDD		1.354e+04			no	0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

E1600326 216 of 326

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173638

Run #6 Filename P603991 Samp: 1 Inj: 1 Acquired: 25-JUN-16 18:10:07 Processed: 1-JUL-16 11:44:17 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.31e+06	1.20e+03	1.1e+03	1.69e+06	3.98e+03	4.2e+02
3	2,3,4,7,8-PeCDF	1.05e+07	6.46e+03	1.6e+03	6.82e+06	1.05e+04	6.5e+02
11	2,3,7,8-TCDD	1.05e+06	1.33e+03	7.9e+02	1.39e+06	1.12e+03	1.2e+03
18	13C-2,3,7,8-TCDF	1.41e+07	5.64e+03	2.5e+03	1.78e+07	2.72e+03	6.5e+03
19	13C-1,2,3,7,8-PeCDF	2.17e+07	2.08e+04	1.0e+03	1.36e+07	1.43e+04	9.6e+02
20	13C-2,3,4,7,8-PeCDF	2.28e+07	2.08e+04	1.1e+03	1.43e+07	1.43e+04	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	7.47e+06	1.48e+03	5.0e+03	1.45e+07	2.10e+03	6.9e+03
26	13C-1,2,3,4-TCDF	1.06e+07	5.64e+03	1.9e+03	1.34e+07	2.72e+03	4.9e+03
		•					
27	13C-2,3,7,8-TCDD	1.08e+07	8.37e+03	1.3e+03	1.37e+07	3.50e+03	3.9e+03
33	13C-1,2,3,4-TCDD	1.14e+07	8.37e+03	1.4e+03	1.43e+07	3.50e+03	4.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.40e+07	2.88e+03	4.8e+03	1.12e+07	9.96e+02	1.1e+04
35	37Cl-2,3,7,8-TCDD	2.55e+06	2.30e+03	1.1e+03			
33 34	13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD	1.14e+07 1.40e+07	8.37e+03 2.88e+03	1.4e+03 4.8e+03	1.43e+07	3.50e+03	4.1e+03

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

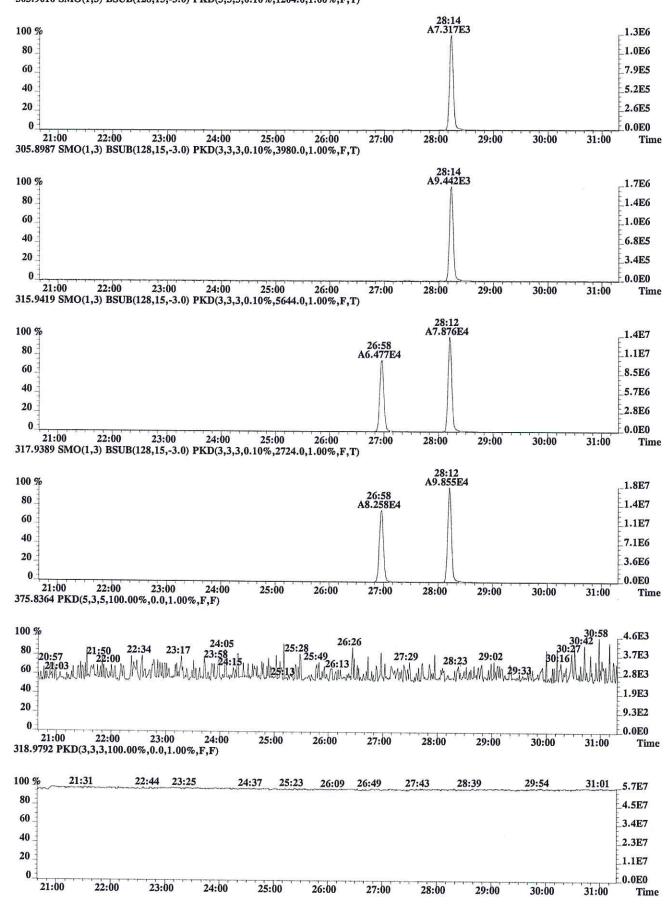
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

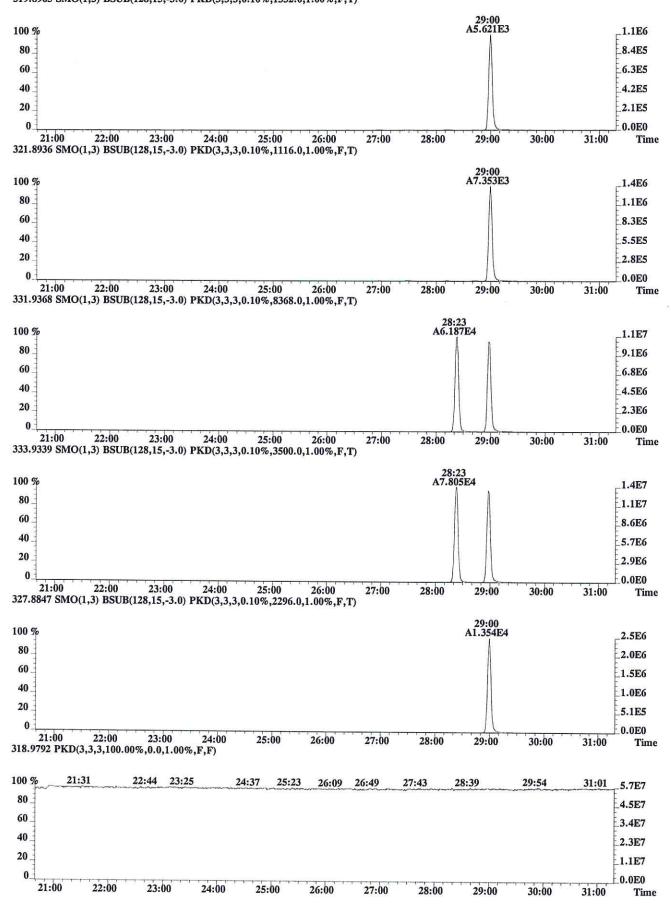
E1600326 217 of 326

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,T)



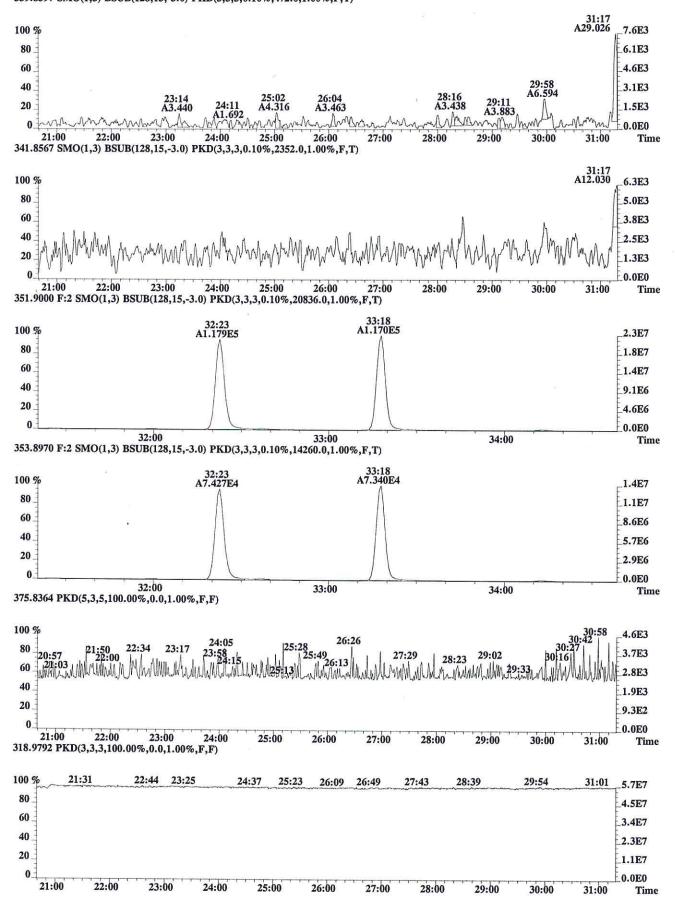
E1600326 218 of 326

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)

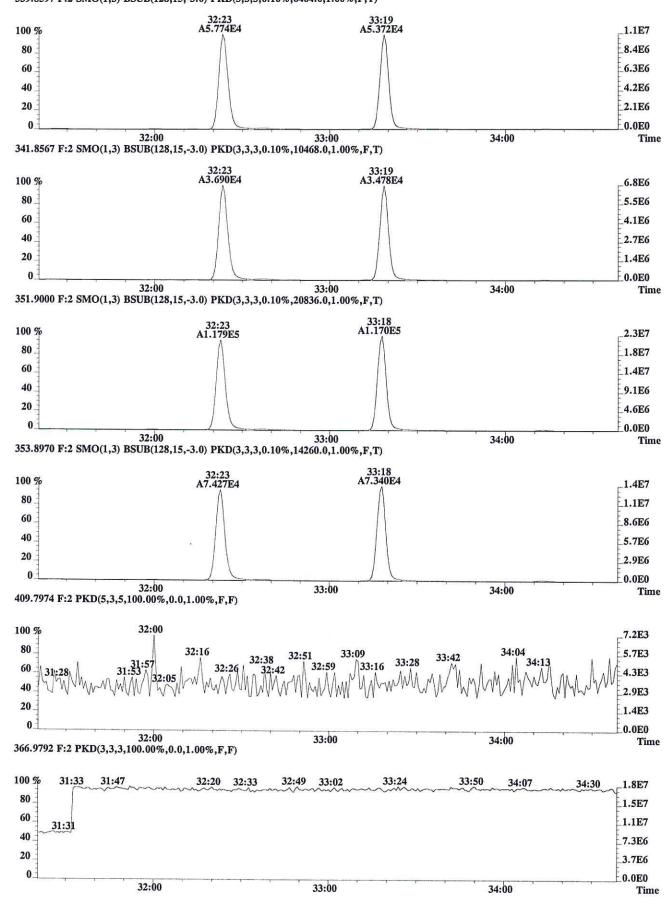


E1600326 219 of 326

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)

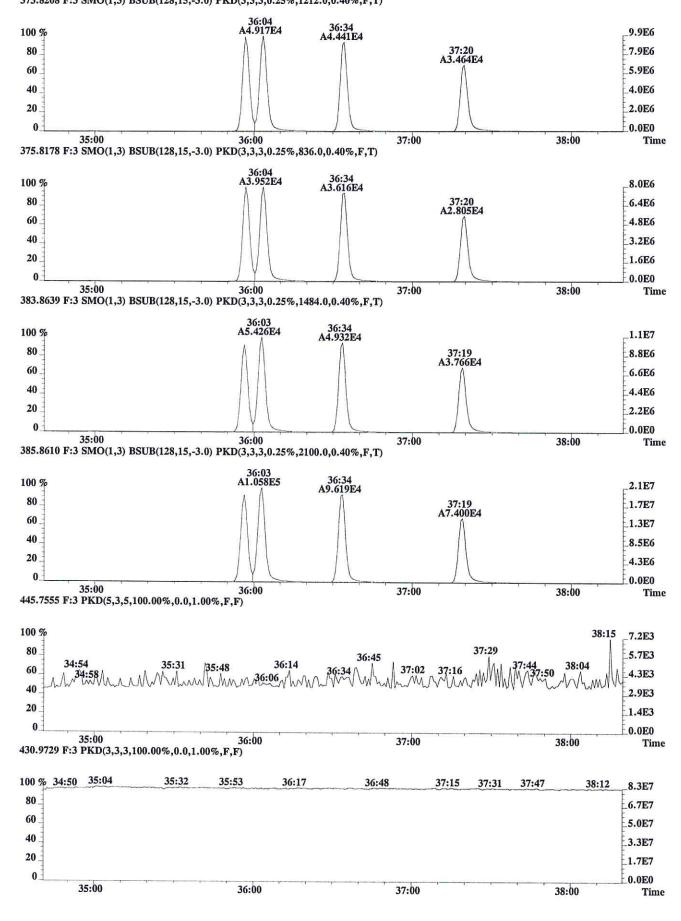


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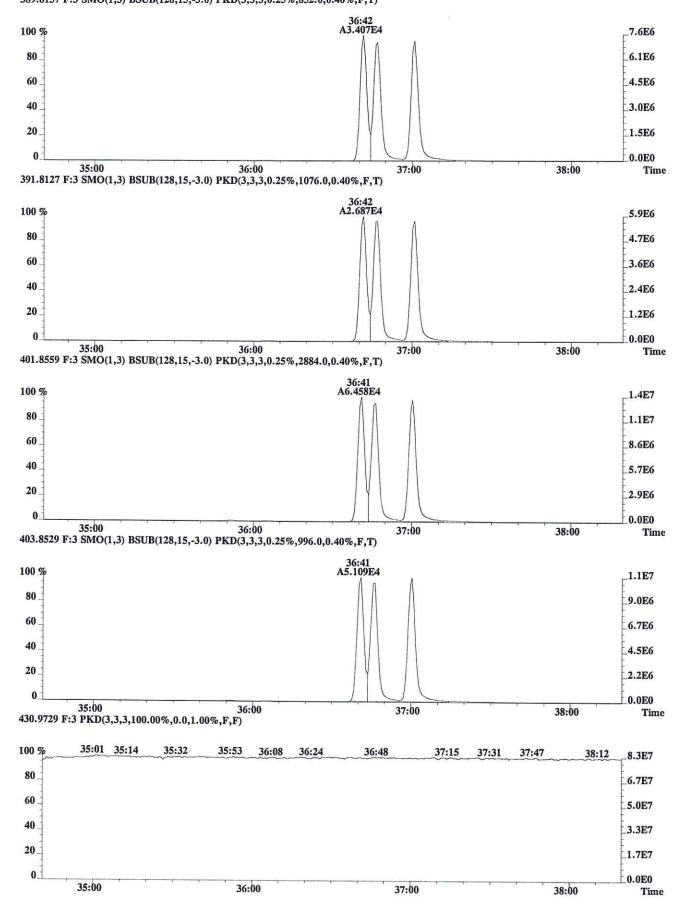
E1600326 221 of 326

File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



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File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



CCAL HRCC3/CS3 Daily Calibration QC Checklist

Date: SPME) P(004,000)	Beginning / Circle or	ne: Ending
Method: 1613 1613E / 8290/ VCP / Tetra / TCDD O Retention Window/Column Performance Check:	nly / TCDF Conf / VCP Con Analyst	of / 8280 / M23 / TO-9A Second Check
Windows in and first and last eluters labeled		. /
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	V	
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)		
CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria		
All relative abundance ratios meet method criteria		
No QC ion deflections of greater than 20% (HRMS Only)		
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)		
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column		V
Signal-to-noise of all target analytes and their labeled standards at least 10:1		
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	NA	NA
Ending Calibration injected prior to end of 12 hour clock	NA	NA
Analyst:ccalqc.xls 07/17/12	Second QC:	_K(

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USEPA - CLP Page 1 of

Contract:

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
==========	=======================================			
87077	WINDOW DEFINE	P604005	26-JUN-16	08:48:01
173638	CS3	P604006	26-JUN-16	09:39:51
METHOD BLANK	EQ1600220-01	P604007	26-JUN-16	11:18:23
METHOD BLANK	EQ1600222-01	P604008	26-JUN-16	12:04:48
METHOD BLANK	EQ1600222-04	P604009	26-JUN-16	12:53:50
LCS	EQ1600220-02	P604016	26-JUN-16	18:59:32
DLCS	EQ1600220-03	P604017	26-JUN-16	19:48:33
04072016SJGW14	E1600326-008	P604010	26-JUN-16	14:07:59
04072016SJGW15	E1600326-009	P604011	26-JUN-16	14:54:24

FORM V-HR CDD-3

DLM02.0(5/05)

225 of 326 E1600326

Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List:

C:\MassLynx\EHRMS08.PRO\SampleDB\20160626.SPL

Last Modified:

Friday, July 01, 2016 08:56:23 Eastern Daylight Time

Printed:

Friday, July 01, 2016 08:56:32 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

opus 4: P60 400 bres

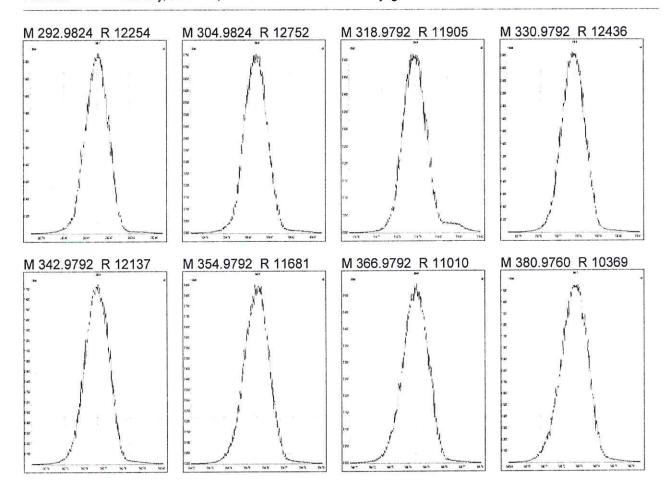
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1	06/26/16	08:48	P604005	87077	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LKC	HRMS check 08:42
2		09:39	P604006	173638	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		11:18.	P604007	EQ1600220-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		
4		12:154	P604008	EQ1600222-01	MB	Tray1:4	EPA1613_ALS	Dioxin_ALS		
5		12:53	P604009	EQ1600222-04	MB	Tray1:5	EPA1613_ALS	Dioxin_ALS		
6		14:07	P604010	E1600326-008	E1600326-008	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		14:54	P604011	E1600326-009	E1600326-009	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8		15:43	P604012	E1600426-001	E1600426-001	Tray1:8	EPA1613_ALS	Dioxin_ALS		
9		16:32	P604013	E1600426-002	E1600426-002	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10		17:21	P604014	E1600426-003	E1600426-003	Tray1:10	EPA1613_ALS	Dioxin_ALS		
11		18:10	P604015	E1600426-004	E1600426-004	Tray1:11	EPA1613_ALS	Dioxin_ALS		:
12		18:59	P604016	EQ1600220-02	LCS		EPA1613_ALS	Dioxin_ALS		
13		19:48	P604017	EQ1600220-03	DLCS		EPA1613_ALS	Dioxin_ALS	$-\!$	HRMS check 10:25
14							EPA1613_ALS	Dioxin_ALS		Carlotte Control of the Control of t
15	X		\ 	-			EPA1613_ALS	Dioxin_ALS		:
16				I A STATE OF THE S		Tray1:16		Dioxin_ALS		7 <u></u>
17				-	7	Tray1:17	EPA1613_ALS	Dioxin_ALS		
18						Tray1:18	EPA1613_ALS	Dioxin_ALS		
19						Tray1:19		Dioxin_ALS		·
20						Tray1:20		Dioxin_ALS		-
21			\sim		***	Tray1:21	EPA1613_ALS	Dioxin_ALS		
22			f(x)			Tray1:22	EPA1613_ALS	Dioxin_ALS		
23				1	(Tray1:23	EPA1613_ALS	Dioxin_ALS		
24			7/ 1],,		Tray1:24	EPA1613_ALS	Dioxin_ALS		
25	-		TI 1711	7111		Tray1:25	EPA1613_ALS	Dioxin_ALS		
26		<u> </u>	+10110	7116		Tray1:26	EPA1613_ALS	Dioxin_ALS		
27			1/ -	-1'	(ABB	Tray1:27	EPA1613_ALS	Dioxin_ALS		/ · · · · · · · · · · · · · · · · · · ·
28				1		Tray1:28	EPA1613_ALS	Dioxin_ALS		
29	MAR.				STATE V	Tray1:29	EPA1613_ALS	Dioxin_ALS		
30 31				·			EPA1613_ALS	Dioxin_ALS		
32		551 0	1888			Tray1:31	EPA1613_ALS	Dioxin_ALS		
33						Tray1:32		Dioxin_ALS		
34		10010 0		V.T.5.T.	S T 	Tray1:33	EPA1613_ALS	Dioxin_ALS		
35				Casta		Tray1:34		Dioxin_ALS	222	
36					O 755.11		EPA1613_ALS	Dioxin_ALS		
37			1000	02500	500000	Tray1:36	EPA1613_ALS	Dioxin_ALS		
38				Assess	\$500.00	Tray1:37		Dioxin_ALS		
39				Description of the second	Section 1	Tray1:38	EPA1613_ALS	Dioxin_ALS		
38						11ay 1:39	EPA1613_ALS	Dioxin_ALS		

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Printed:

Sunday, June 26, 2016 08:42:02 Eastern Daylight Time



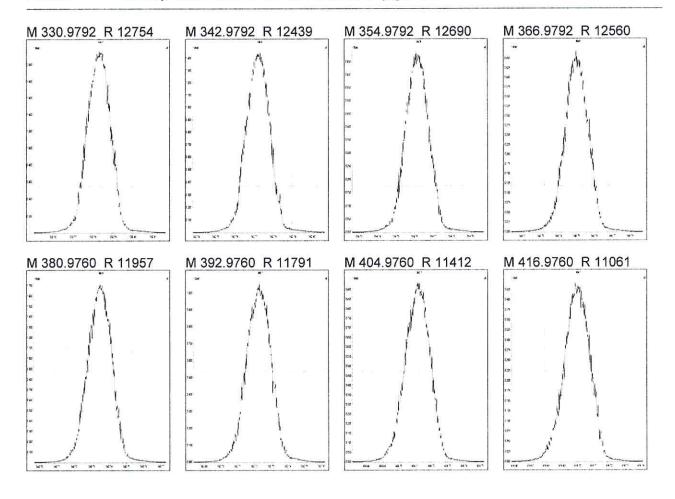
E1600326 227 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:43:19 Eastern Daylight Time



E1600326 228 of 326

MassLynx 4.1 SCN815 SCN795

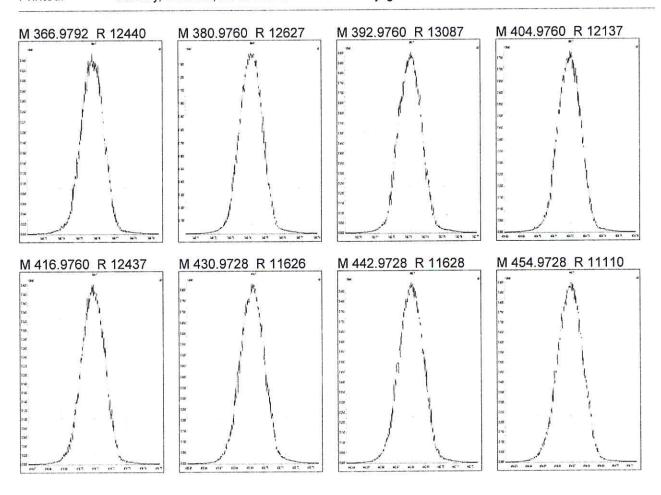
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:44:28 Eastern Daylight Time



E1600326 229 of 326

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

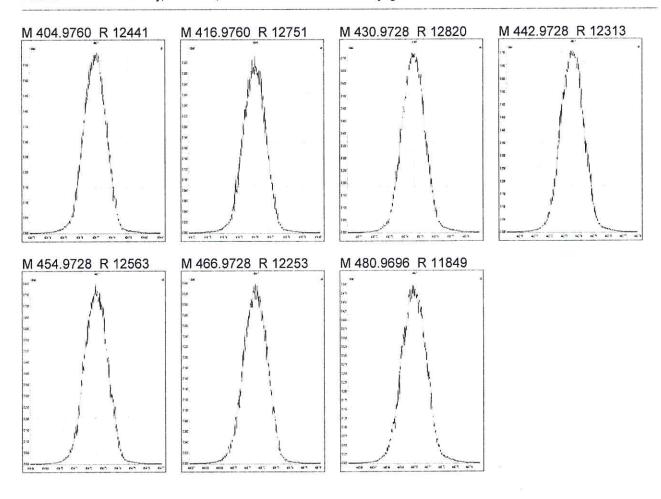
Page 1 of 1

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Printed:

Sunday, June 26, 2016 08:45:53 Eastern Daylight Time



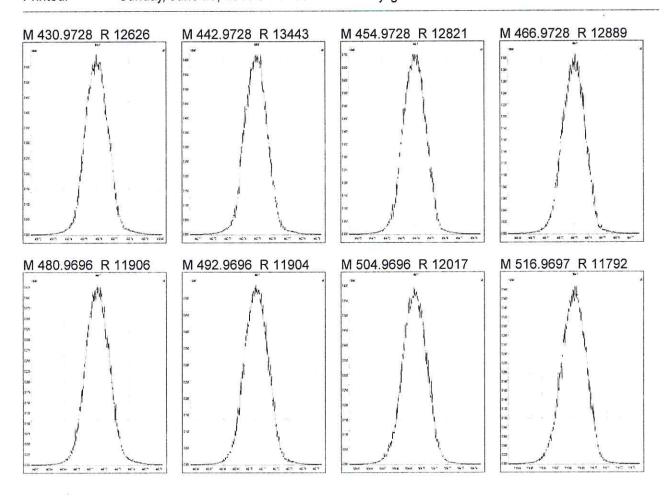
E1600326 230 of 326

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:47:08 Eastern Daylight Time



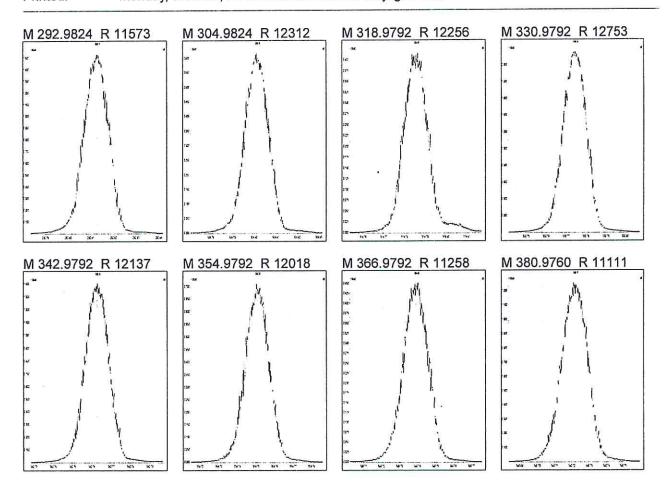
E1600326 231 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:25:05 Eastern Daylight Time



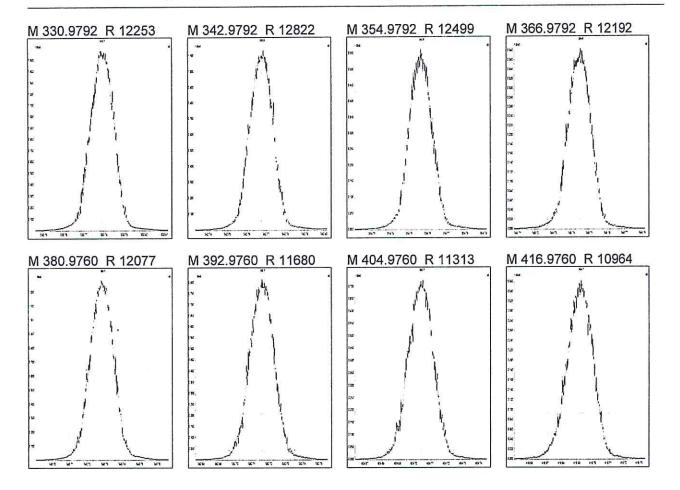
E1600326 232 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:27:01 Eastern Daylight Time



E1600326 233 of 326

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

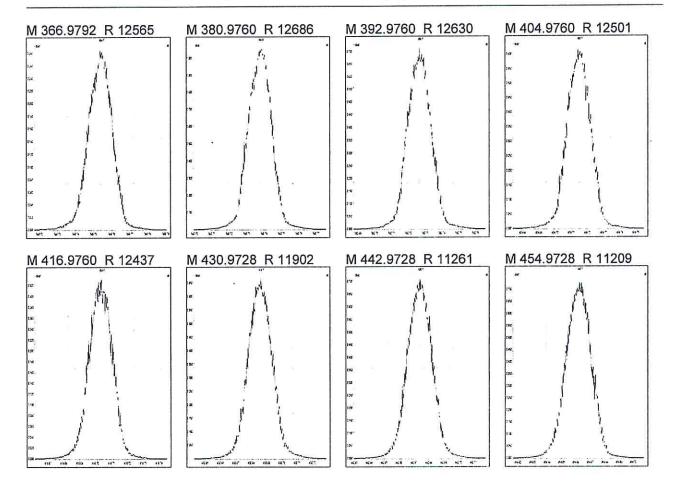
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:28:22 Eastern Daylight Time



E1600326 234 of 326

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

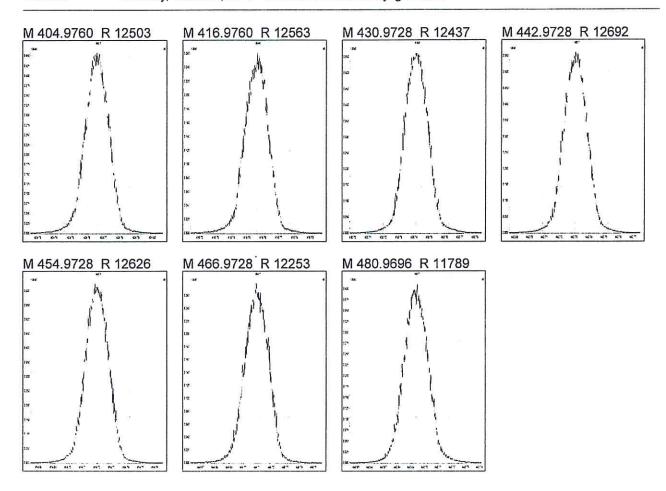
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:29:47 Eastern Daylight Time



E1600326 235 of 326

MassLynx 4.1 SCN815 SCN795

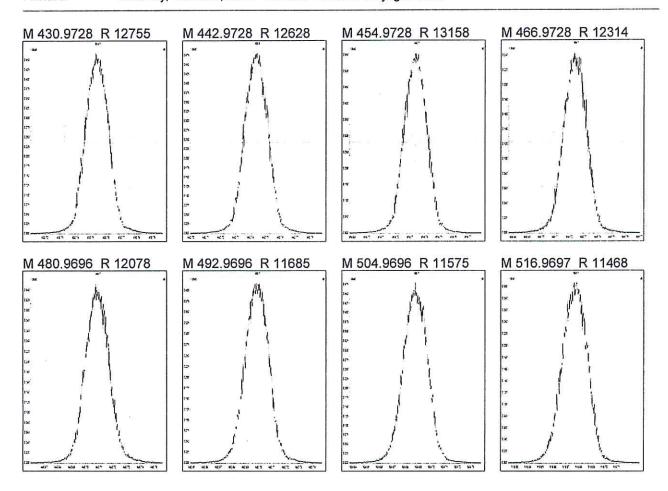
Page 1 of 1

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:31:11 Eastern Daylight Time



E1600326 236 of 326

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT	ID:
WDM	

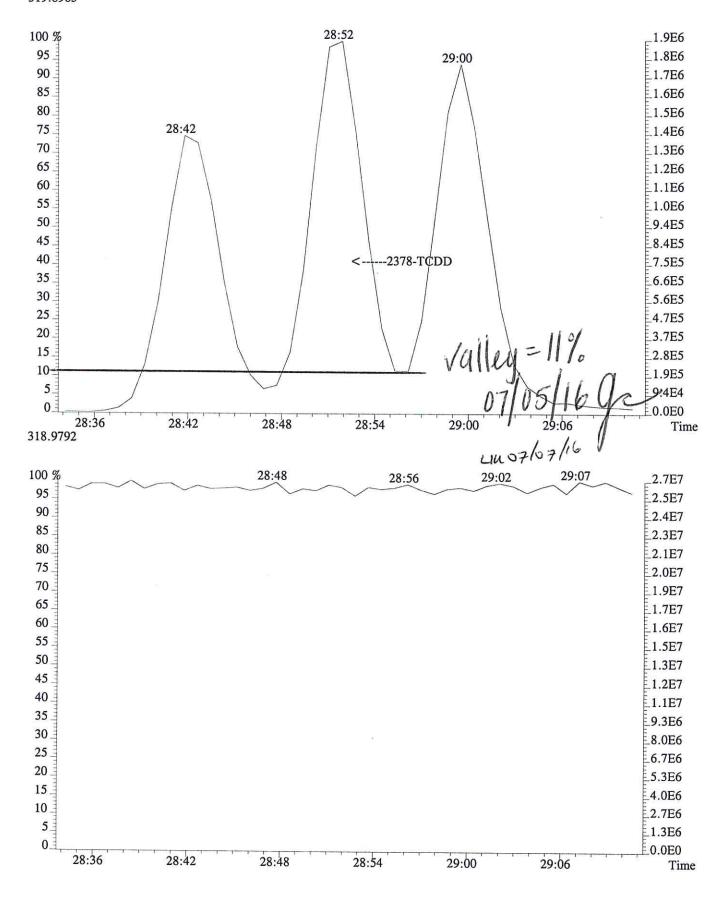
Lab Name: ALS Environmental Lab Code: ALSTX GC Column: DB-5MSUI

____ SDG No.: Lab File ID: P604005

Date Analyzed: 26-JUN-2016 Time Analyzed: 08:48:01

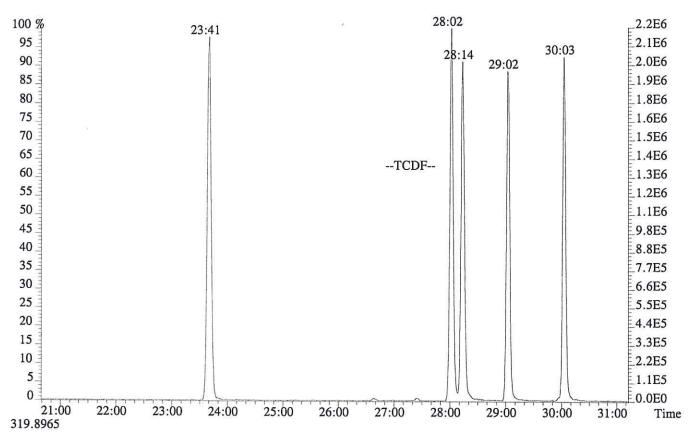
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:41	30:03
TCDD	25:32	29:52
PeCDF	29:56	34:13
PeCDD	31:29	33:57
HxCDF	34:50	37:20
HxCDD	35:20	36:56

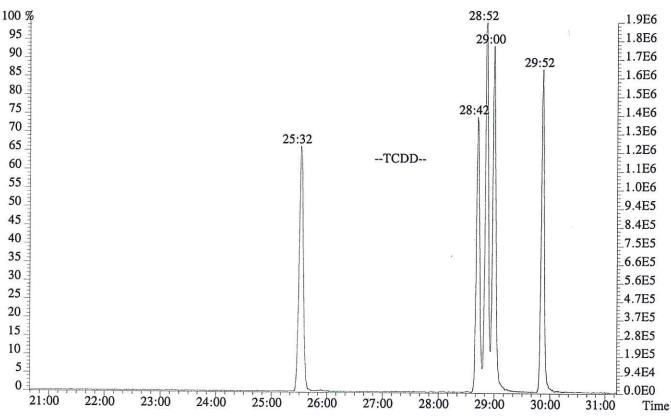
[%] Valley 2378-TCDD:



E1600326 238 of 326

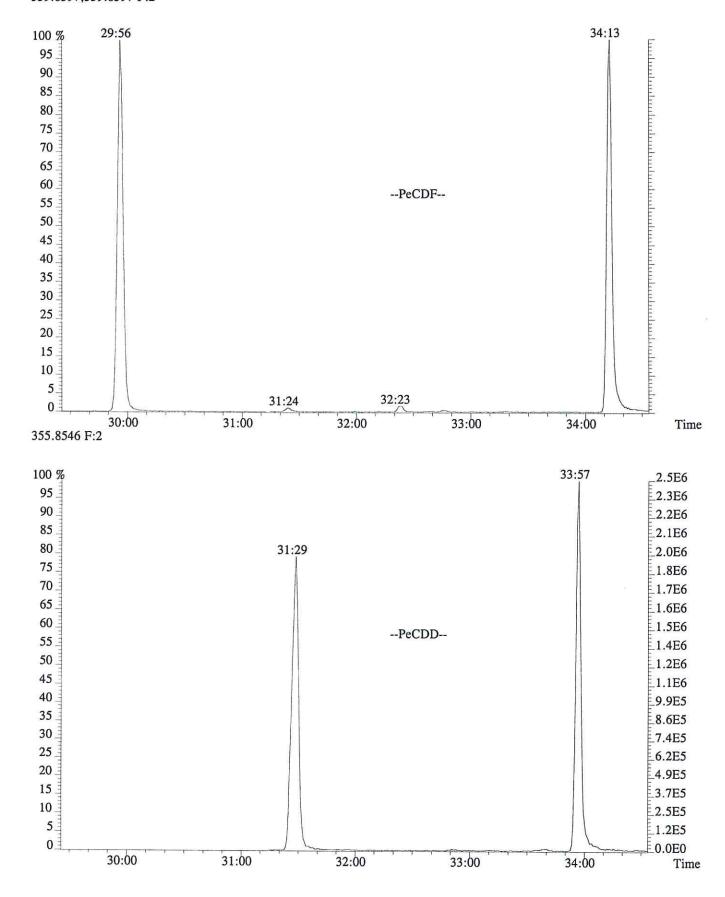
File:P604005 #1-749 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016





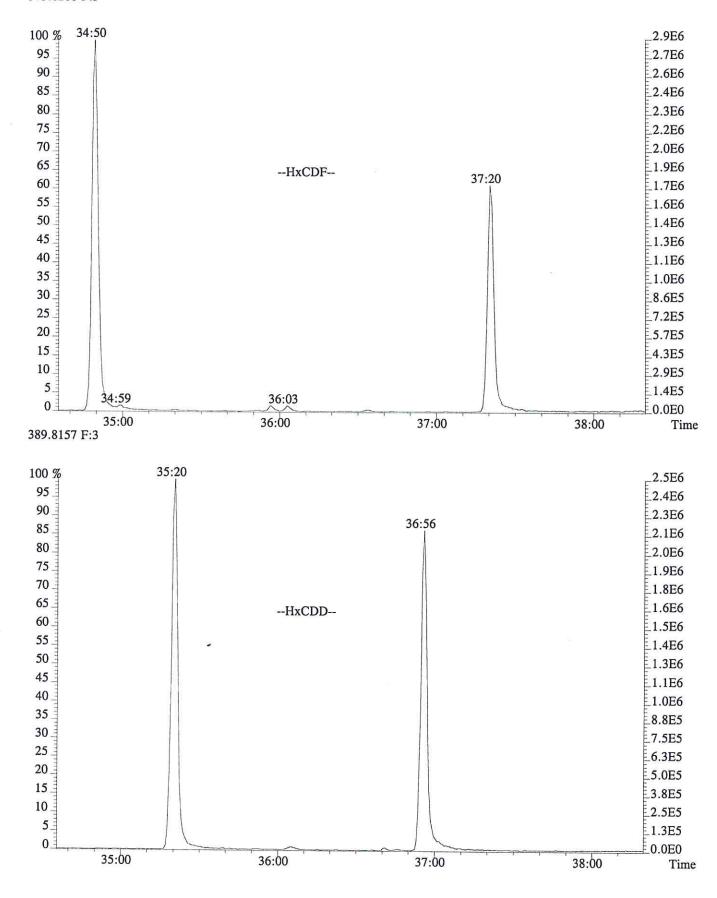
E1600326 239 of 326

File:P604005 #1-749 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



E1600326 240 of 326

File:P604005 #1-337 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P604006

Analysis Date: 26-JUN-16 Time: 09:39:51

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	4.6	3.9 - 6.45	-8.3
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	4.6	4.2 - 6.0	-8.7
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25.3	20.5 - 30.5	1.3

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
Method 8290
12/2012
1613F4A.FRM

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P604006

Analysis Date: 26-JUN-16 Time: 09:39:51

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	51	41 - 60.5	2.2
13C-1,2,3,4-TCDF	M/M+2	0.79	0.65-0.89	48	35.5-70	-3.2
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.78 1.58	0.65-0.89 1.32-1.78	49 47	35.5-70 38 - 65	-2.6 -5.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	45	38.5 - 65	-10.1
13C-1,2,3,7,8,9-HxCD	F	0.51	0.43-0.59	51	37 - 67.5	1.3
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	-0.5

(4)

12/2012 1613F4B.FRM

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

Run #6 Filename P604006 Samp: 1 Inj: 1 Acquired: 26-JUN-16 09:39:51 Processed: 7-JUL-16 08:02:36 Sample ID: CS3

Proces	ssed: 7-JUL-16	08:02:36	Sample ID:	CS3			
Тур	Þ	Name RT	-1 Resp	1 Resp 2	Ratio Meet	Mod?	RRF
1 Unl	2 ع	,3,7,8-TCDF 28	:13 6.006e+	03 8.060e+03	0.75 yes	no	0.957
3 Unl	2,3,	4,7,8-PeCDF 33	:18 4.535e+	04 2.938e+04	1.54 yes	no	0.929
11 Un	ς 2	,3,7,8-TCDD 28	:59 5.052e+	03 6.689e+03	0.76 yes	no	1.048
18 IS	13C-2	,3,7,8-TCDF 28	:11 7.074e+	04 9.022e+04	0.78 yes	no	1.283
19 IS	13C-1,2,	3,7,8-PeCDF 32	:22 1.027e+	05 6.509e+04	1.58 yes	no	1.381
20 IS	13C-2,3,	4,7,8-PeCDF 33	:17 9.728e+	04 6.152e+04	1.58 yes	no	1.371
24 IS	13C-1,2,3,	7,8,9-HxCDF 37	:18 3.128e+	04 6.181e+04	0.51 yes	no	0.875
26 IS	13C-1	,2,3,4-TCDF 26	:57 7.295e+	04 9.239e+04	0.79 yes	no	1.325
		5 8 8		•		•	
27 IS	13C-2	,3,7,8-TCDD 28	:58 5.358e+	04 6.862e+04	0.78 yes	no	0.929
33 RS,	/RT 13C-1	,2,3,4-TCDD 28	:22 5.707e+	04 7.174e+04	0.80 yes	no	–
34 RS,		7,8,9-HxCDD 37	:00 5.907e+	04 4.596e+04	1.29 yes	no	j -
35 C/t	Jp 37Cl-2	,3,7,8-TCDD 28	:59 1.211e+	04		no	0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173638

Run #6 Filename P604006 Samp: 1 Inj: 1 Acquired: 26-JUN-16 09:39:51

Processed: 7-JUL-16 08:02:36 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.08e+06	1.18e+03	9.2e+02	1.46e+06	3.18e+03	4.6e+02
3	2,3,4,7,8-PeCDF	8.96e+06	1.40e+03	6.4e+03	5.78e+06	1.17e+04	4.9e+02
11	2,3,7,8-TCDD	9.68e+05	1.22e+03	7.9e+02	1.27e+06	1.48e+03	8.6e+02
18	13C-2,3,7,8-TCDF	1.25e+07	4.44e+03	2.8e+03	1.60e+07	2.40e+03	6.7e+03
19	13C-1,2,3,7,8-PeCDF	1.90e+07	1.81e+04	1.0e+03	1.19e+07	2.43e+03	4.9e+03
20	13C-2,3,4,7,8-PeCDF	1.89e+07	1.81e+04	1.0e+03	1.18e+07	2.43e+03	4.9e+03
24	13C-1,2,3,7,8,9-HxCDF	6.26e+06	1.18e+03	5.3e+03	1.22e+07	1.90e+03	6.4e+03
26	13C-1,2,3,4-TCDF	1.21e+07	4.44e+03	2.7e+03	1.53e+07	2.40e+03	6.4e+03
				•		•	
27	13C-2,3,7,8-TCDD	9.99e+06	7.30e+03	1.4e+03	1.27e+07	3.19e+03	4.0e+03
33	13C-1,2,3,4-TCDD	1.08e+07	7.30e+03	1.5e+03	1.35e+07	3.19e+03	4.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.16e+07	3.04e+03	3.8e+03	9.23e+06	1.53e+03	6.0e+03
35	37Cl-2,3,7,8-TCDD	2.28e+06	2.04e+03	1.1e+03			

ALS ENVIRONMENTAL 10450 Stancliff Rd., Suite 115

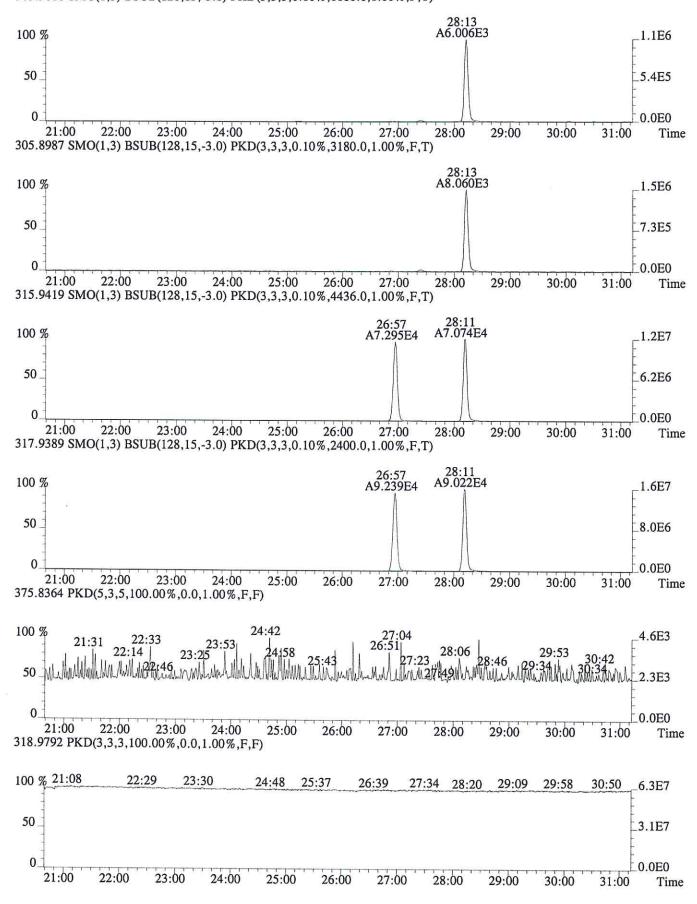
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

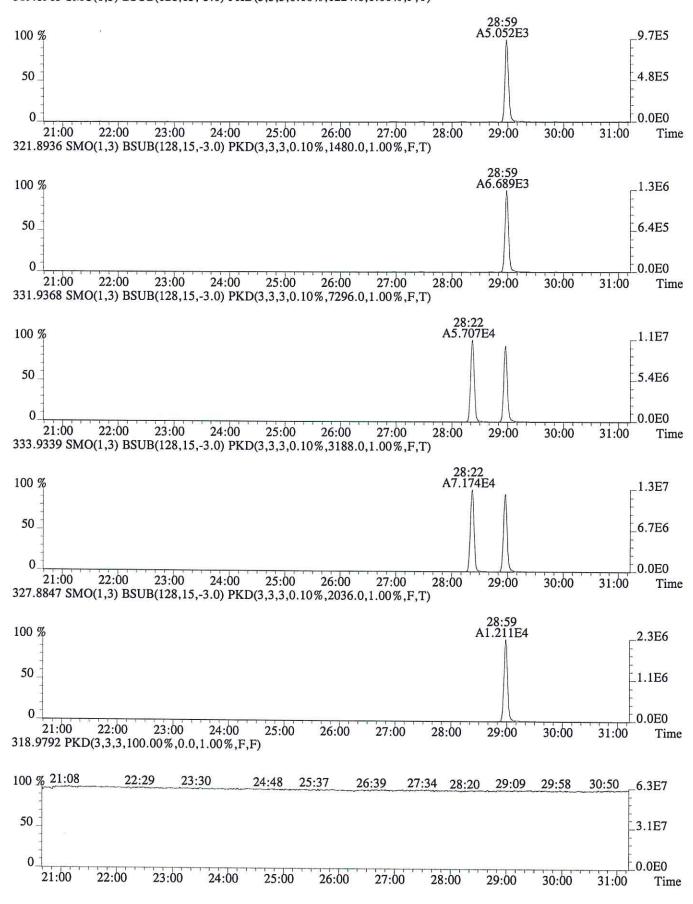
E1600326 245 of 326

File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



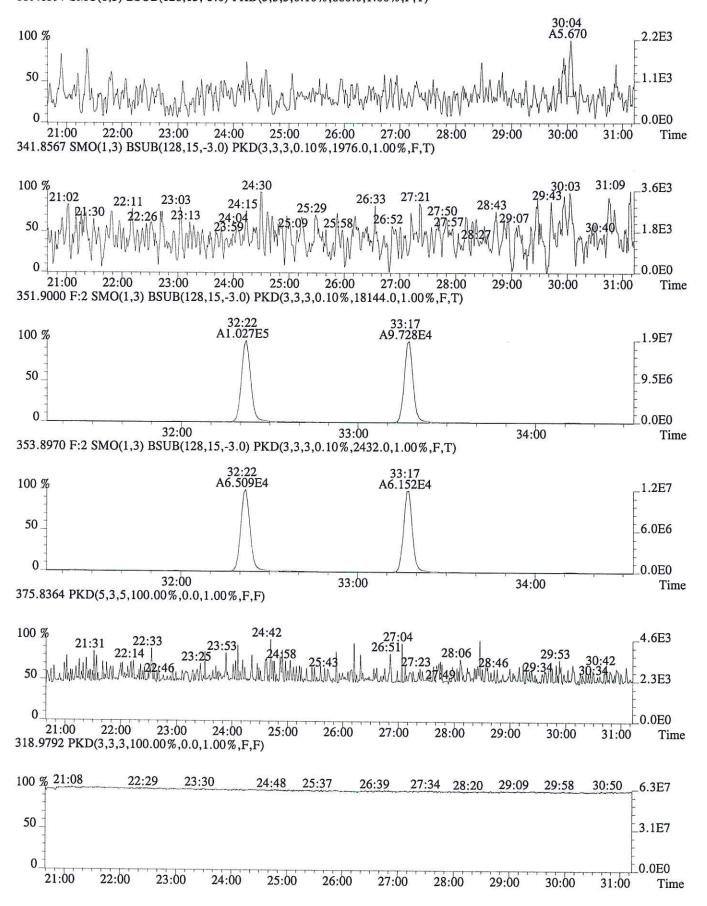
E1600326 246 of 326

File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)

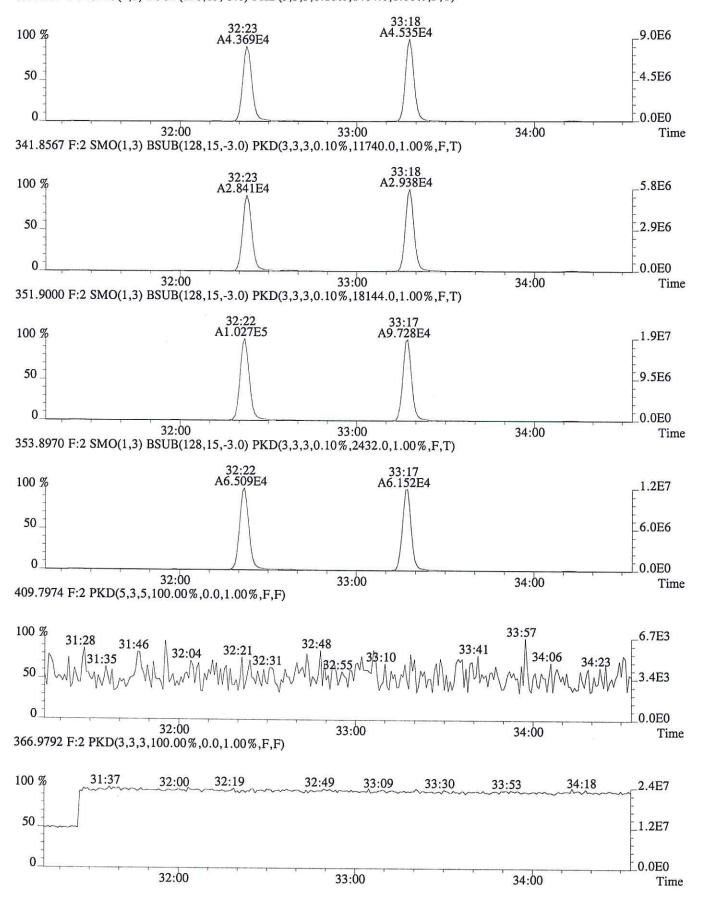


E1600326 247 of 326

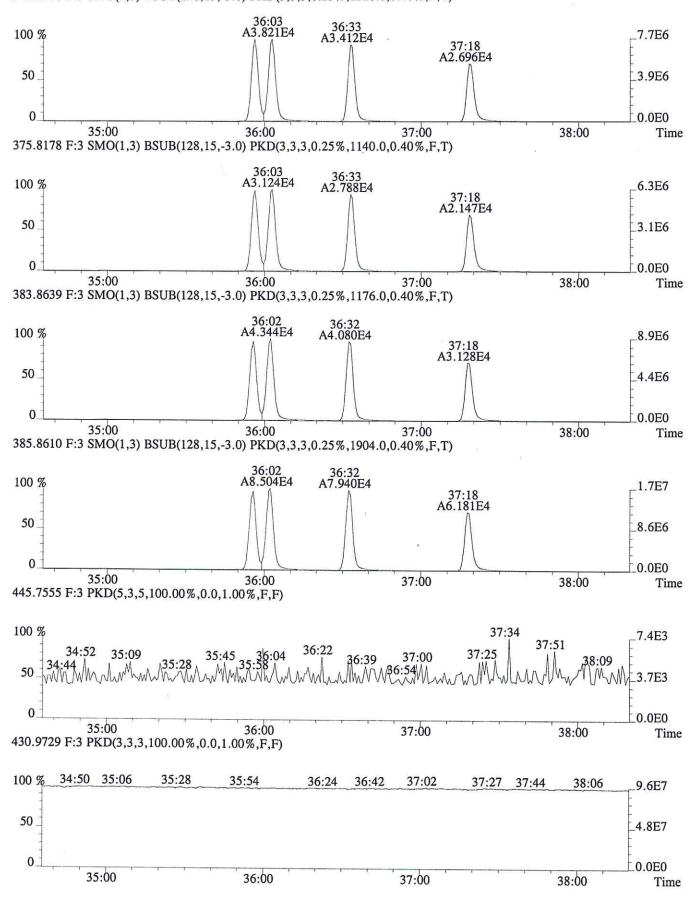
File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI + Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



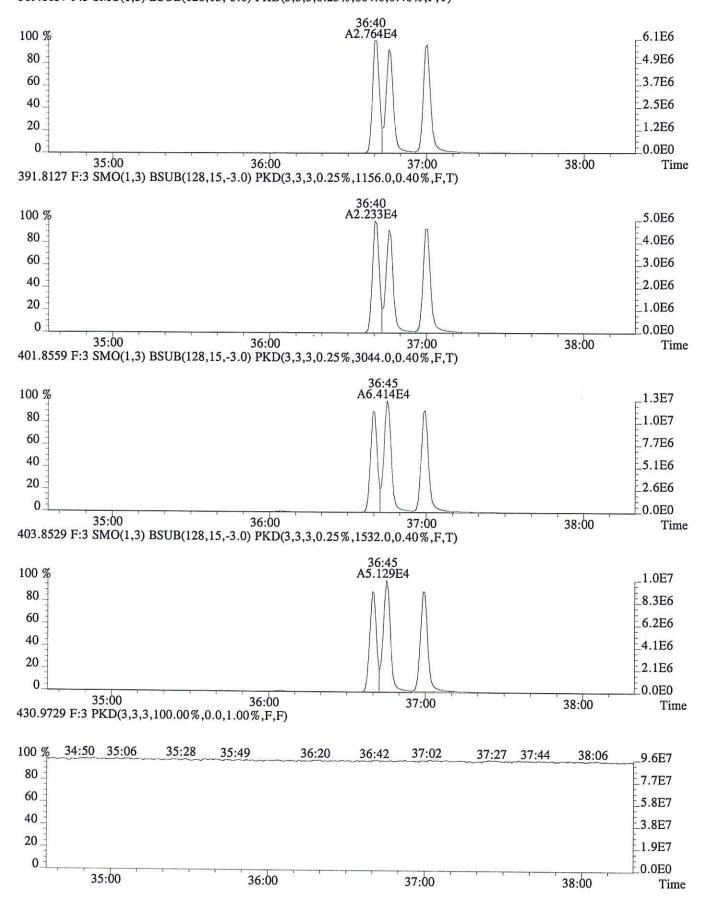
File:P604006 #1-299 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,T)



File:P604006 #1-337 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



File:P604006 #1-337 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)





Initial Calibration

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	D	C / D F / D	016						
Instrument Name: E-HRMS-08	6/25/2016								
Processor Name: Gisela Cruz Reviewer Name:				Name: P6-160625SPMEI					
Supervisor: Andy Neir	Loan Li	uong							
Supervisor: Andy Neir									
Description		Voc	No	NIA	ND	ED#			
Description		Yes	No	NA	NR	ER#			
Analytical Sequence					23/55/05A03				
Does the analytical sequence summary accurately reflect	the instrument					A DOMESTIC ST			
run log, including ICV?		1							
Was a Mass Resolution Check performed at the beginning	and end of the								
12-hour sequence?		\checkmark							
Were all calibration standards and the ICV analyzed within	the same 12-								
hour sequence?		_ √							
Were all calibration standards analyzed only once?		\checkmark							
Was the ICV analyzed after the ICAL, before analyzing san	nples?								
Mass Resolution Check									
Are beginning and ending resolution checks provided and	l legible?	√							
Were all target masses >10,000 resolving power at the be	ginning of the								
sequence?		√							
Were all target masses >10,000 resolving power at the en	d of the				1				
sequence?		√							
For PCB analysis, were masses at the low and high end of	each function								
mass range >8,000? Where automatic printout of the mass resolution were not	10.000			√					
the resolution inspected by a trained analyst, including m	:>10,000, was								
of the resolution, if warranted?	anual calculation			,					
or the resolution, it warranted:				√					
Window Define/209				EAU PERSON					
Is the window defining mix summary present, and accomp	panied by					450400000000000000000000000000000000000			
SICPs/Chromatograms for the WDM?	950	√							
Was the WDM/Column Performance/209 solution analyzed	d prior to the	11							
analysis of the calibration standards?		√							
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?		\checkmark							
Were all first and last eluters adequately resolved in each	function?	√							
If first and last eluters were not resolved, was corrective a	ction performed								
and documented, followed by a reanalysis of the WDM?				√					
Was the retention time of PCB 209 >55 min?				√					
Were the following congeners uniquely resolved (valley he shortest peak)?	ight <40% of the								
PCB-34 and PCB-23									
PCB-187 and PCB-182									
Did PCB 156/157 co-elute within 2 seconds at peak maxin									
Dia 1 65 130/137 to clute within 2 seconds at peak maxin			√						
Calibration Standards			2000		an College of the Land	Months with			
Were there at least 5 calibration standards analyzed?	/								
If not all calibration standards were used, were the omitte	d standards	V							
either the lowest or highest calibration standard?	a standards			,					
Are all sample response summaries, S/N height summarie	s and SICPs	./							
	o, and sici s	-√							

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2 revised 3/1/13

Page 1

Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	5/25/2	016		1				
			Name: P6-160625SPMEI					
Processor Name: Gisela Cruz	Reviewer Name:	Loan L	uong					
Supervisor: Andy Neir								
Description		Yes	No	NA	NR	ER#		
included (and legible) for the entire sequence?						+		
Did each calibration point meet method criteria for Ion Abufor all analytes and labeled standards?		1						
Did each calibration point meet method criteria for signal-t (S/N)?		1						
Were area counts for the highest calibration standard below saturation?	√							
Were manual integrations technically justified to correct for integration?	r poor software	V				1		
Response Factors								
Is the ICAL Response Factor Summary present, including RF each native/labeled analyte at each level of calibration?		J						
Were all calibration standards used in determining respons	e factors?	√						
Were relative response factors (RR) for each native analyte ceach calibration point?		√						
Did the RSD for RRFs for each native analyte meet method	criteria?	√						
Were response factors (RF) for each native analyte not havin	ng a	121						
corresponding labeled compound calculated at each calibra	√.							
Were RFs for each labeled compound calculated for each ca	√							
Did the RSD for RF for each labeled compound meet metho	a criteria?	√						
Initial Calibration Verification					E COLOR			
Is the calibration verification present, including form 4A/B results for the ICV (Conc. or %D)	reflecting	J						
Did all analytes meet method criteria for the ICV.		1/						

Meth	od: SPME	Review Checklist: Initial Calibration Process Date: 06/25/2016				
Instru	ument Name: E-HRMS-08	Calibration File Name: P6-160625SPMEI				
Proce	essor Name: Gisela Cruz	Reviewer Name: Loan Luong				
ER#5	Description					
Manual Integration on CS1 in order to correct inconsistent baseline determinations between primary and secondary ions. Before and after chromatograms provided. Where there is no after chromatograph provided, the modification reflects an update to reconcile response values between Sample Response Summary and chromatograph.						
1 = AN	Not Applicable;					
NR = 1	Not Reviewed;					
R# = E	exception Report identification number	er (an Exception Report should be completed for an item if "NP"				

R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2 revised 3/1/13

Page 2

ALS ENVIRONMENTAL

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: TX01411 Episode No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm) Instrument ID: E-HRMS-08

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, SPIKES AND DUPLICATES IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
=======================================	=======================================	=========	-==-=======	========
87077	WINDOW DEFINE	P603981	25-JUN-16	09:17:10
173636	CS1	P603982	25-JUN-16	10:06:18
173637	CS2	P603983	25-JUN-16	11:09:26
173638	CS3	P603984	25-JUN-16	11:55:54
173639	CS4	P603985	25-JUN-16	12:52:51
173640	CS5	P603986	25-JUN-16	13:45:46
CS3 2ND SOURCE	CS3 2ND SOURCE	P603988	25-JUN-16	15:21:10

Sample List Report	MassLynx 4.1 SCN815 SCN795
And the property of the company of the contract of the contrac	

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20160625.SPL Last Modified: Friday, July 01, 2016 08:45:44 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

Printed: Friday, July 01, 2016 08:48:07 Eastern Daylight Time

opus 4: P603988 res

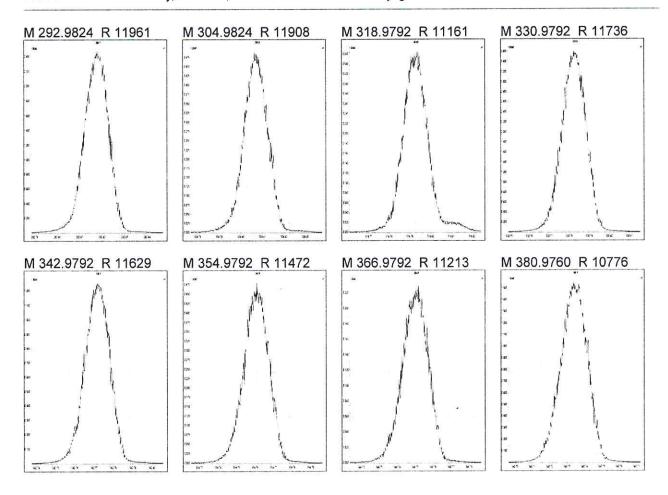
						- T				
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1 2 3 4 5 6 7 8 9 10	06/25/16	09:17 10:06 11:55 13:55 13:45 14:32 15:21 16:34	P603981 P603982 P603983 P603984 P603985 P603986 P603987 P603988 P603989	87077 173636 173637 173638 173639 173640 NONANE CS3 2ND SOURCE NONANE	WINDOW DEFINE CS1 CS2 CS3 CS4 CS5 NONANE CS3 2ND SOURCE NONANE	Tray1:1 Tray1:2 Tray1:3 Tray1:4 Tray1:5 Tray1:6 Tray1:7 Tray1:8 Tray1:9 Tray1:10	EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS	<u>LKC</u>	HRMS check 09:11 HRMS check 16:28
12 13 14						Tray1:12 Tray1:13 Tray1:14	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS Dioxin_ALS		
15 16 17				 	= 1 0	Tray1:15 Tray1:16 Tray1:17	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS Dioxin_ALS		
18 19 20			- Proce	== ===================================	25/16 /C	Tray1:18 Tray1:19 Tray1:20	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS Dioxin_ALS		
21 22 23				'	= ' ()	Tray1:21 Tray1:22	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS		
24 25						Tray1:24 Tray1:25	EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS Dioxin_ALS		
26 27 28						Tray1:27 Tray1:28	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS		
29 30 31		 				Tray1:29 Tray1:30 Tray1:31	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS		
32 33 34	- Log	book	Form	Updated (07/01/16	Tray1:32 Tray1:33	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS		
35 36 37		to inpi Tos	# lab	sample		Tray1:35 Tray1:36	EPA1613_ALS EPA1613_ALS EPA1613_ALS	Dioxin_ALS Dioxin_ALS		
38 39						Tray1:38	EPA1613_ALS EPA1613_ALS			

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:11:20 Eastern Daylight Time



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Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

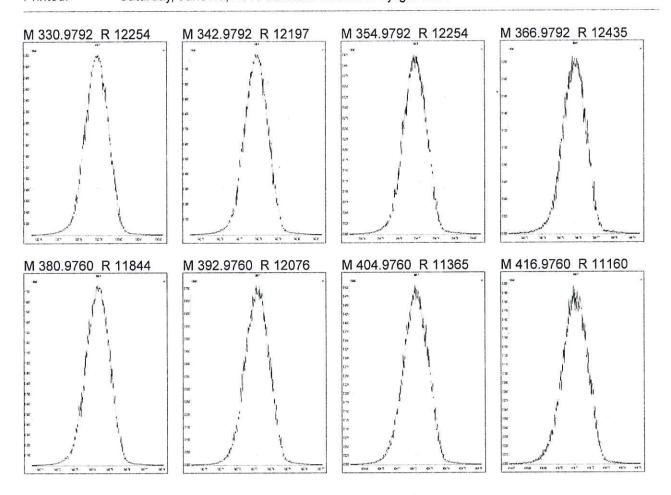
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:12:33 Eastern Daylight Time



E1600326 258 of 326

Experiment Calibration Report MassLynx 4.1 SCN815 SCN795

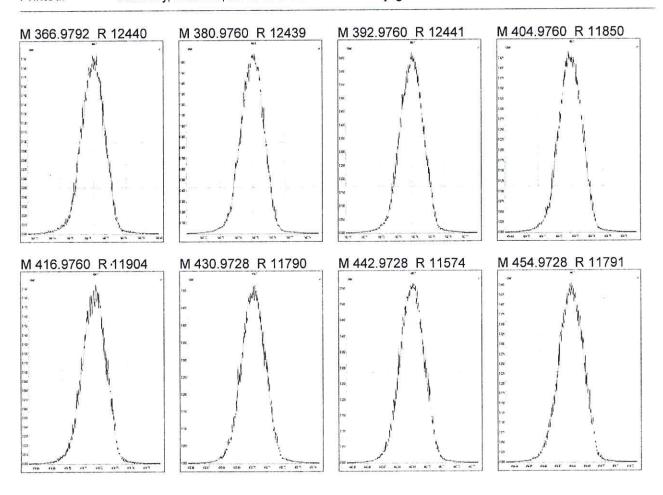
Page 1 of 1

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Printed:

Saturday, June 25, 2016 09:13:42 Eastern Daylight Time



E1600326 259 of 326

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

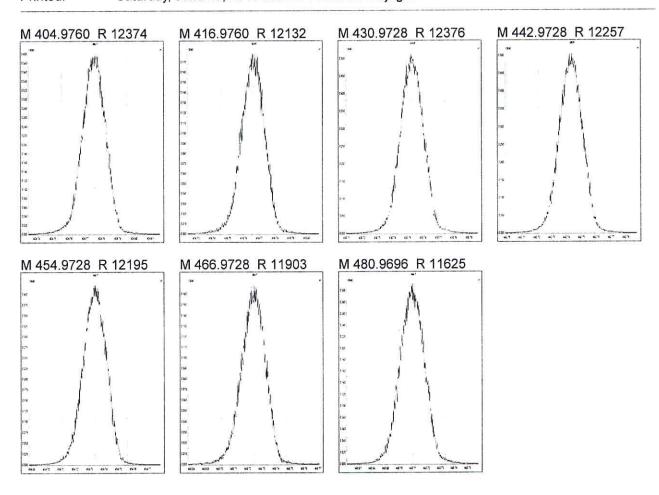
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:14:56 Eastern Daylight Time



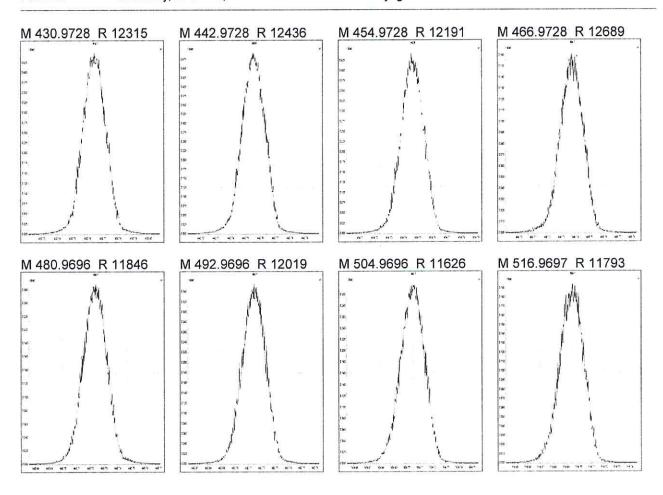
E1600326 260 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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Saturday, June 25, 2016 09:16:07 Eastern Daylight Time



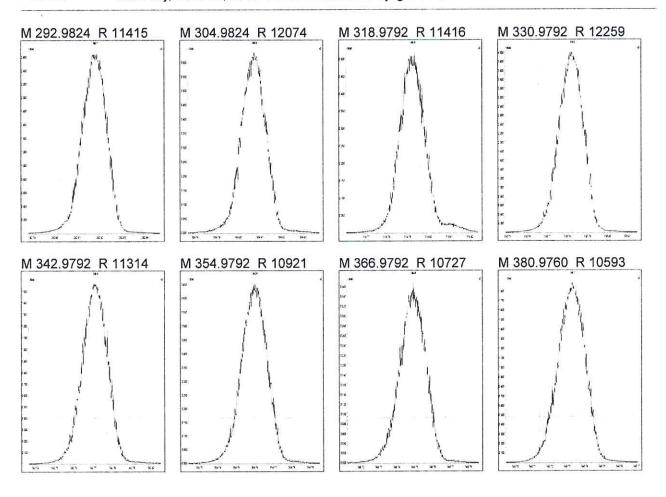
E1600326 261 of 326

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time



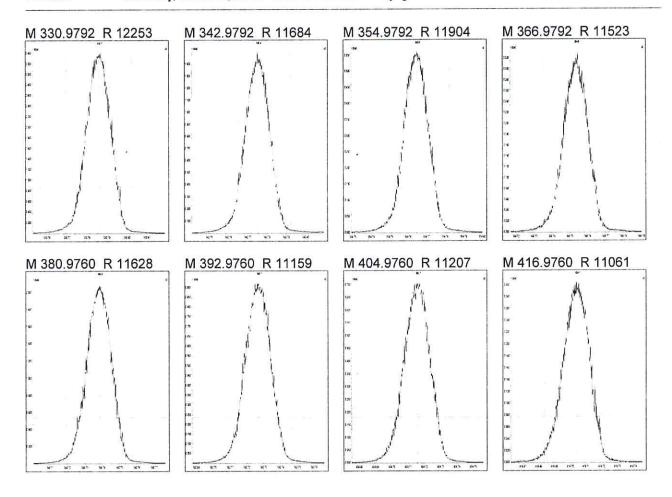
E1600326 262 of 326

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



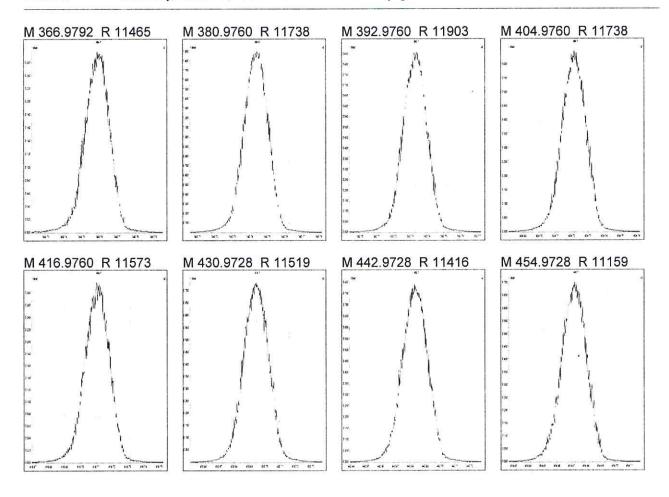
E1600326 263 of 326

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



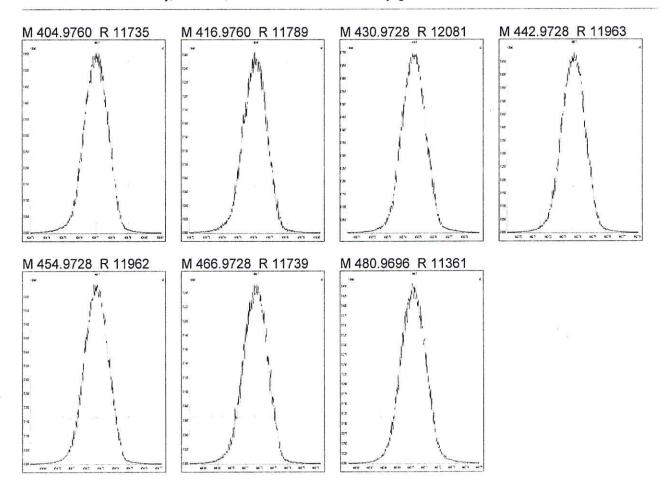
E1600326 264 of 326

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:32:13 Eastern Daylight Time



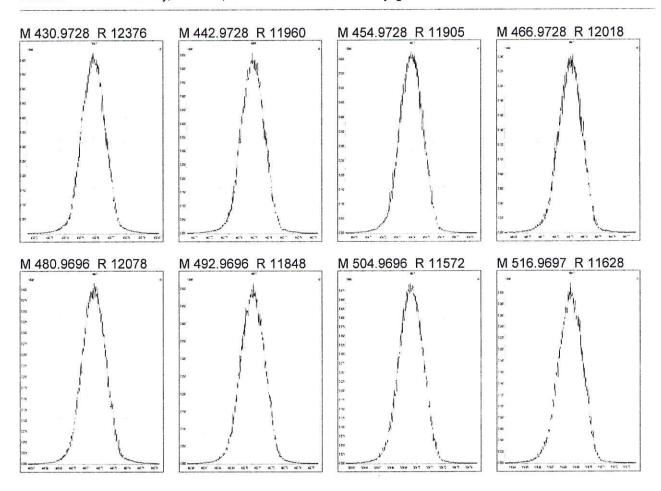
E1600326 265 of 326

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



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5DFA WINDOW DEFINING MIX SUMMARY

CLIENT ID: WDM

% Valley 2378-TCDD:

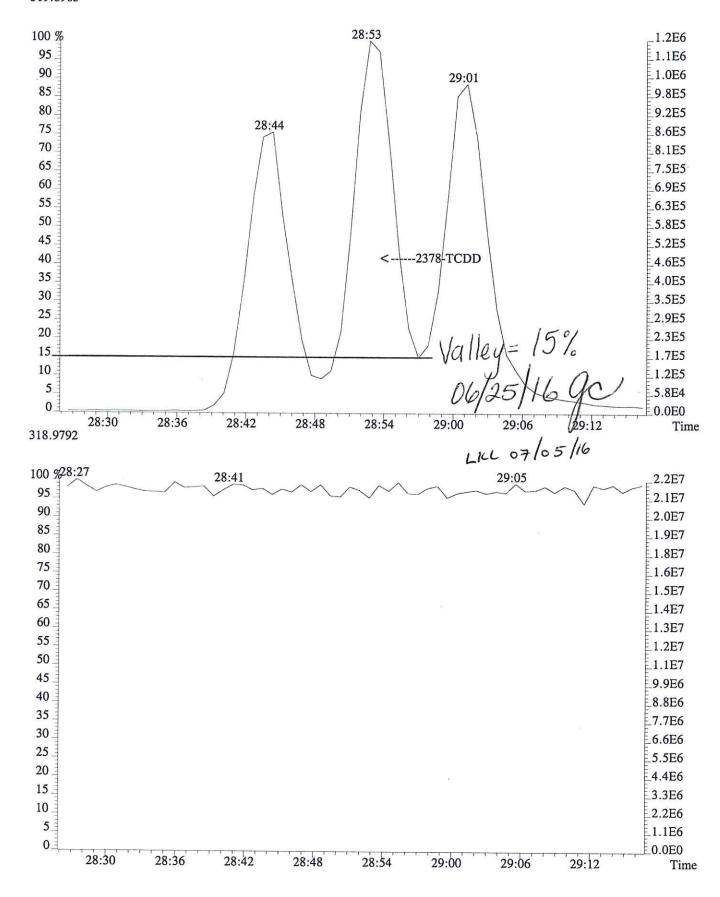
SDG No.:
Lab File ID: P603981 SDG No.:

Date Analyzed: 25-JUN-2016

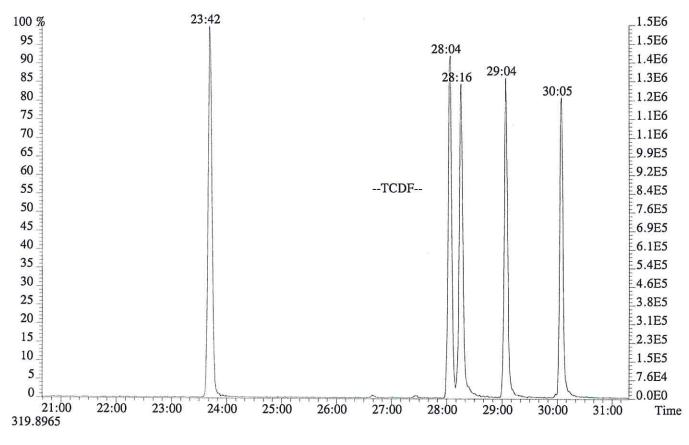
Time Analyzed: 09:17:10

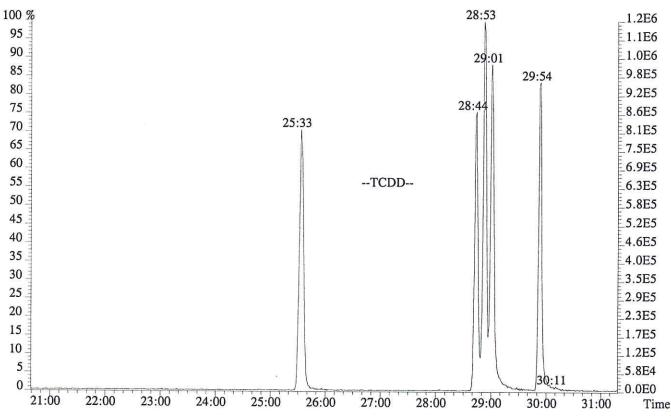
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:42	30:05
TCDD	25:33	29:54
PeCDF	29:58	34:14
PeCDD	31:30	33:58
HxCDF	34:50	37:22
HxCDD	35:22	36:57
HpCDF	38:33	39:58
HpCDD	38:47	39:28

15 %

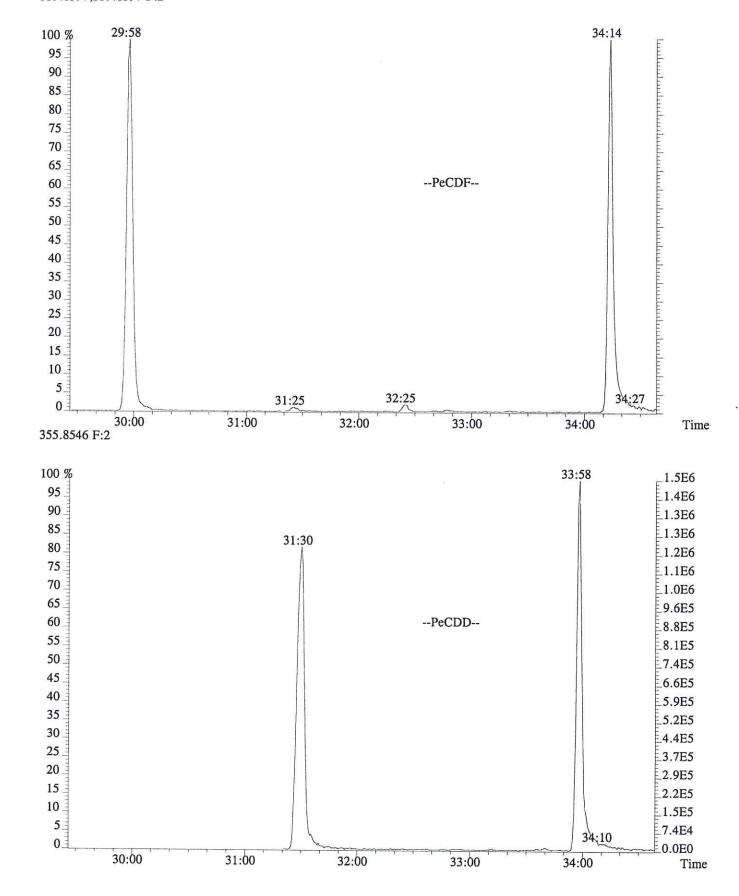


File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016



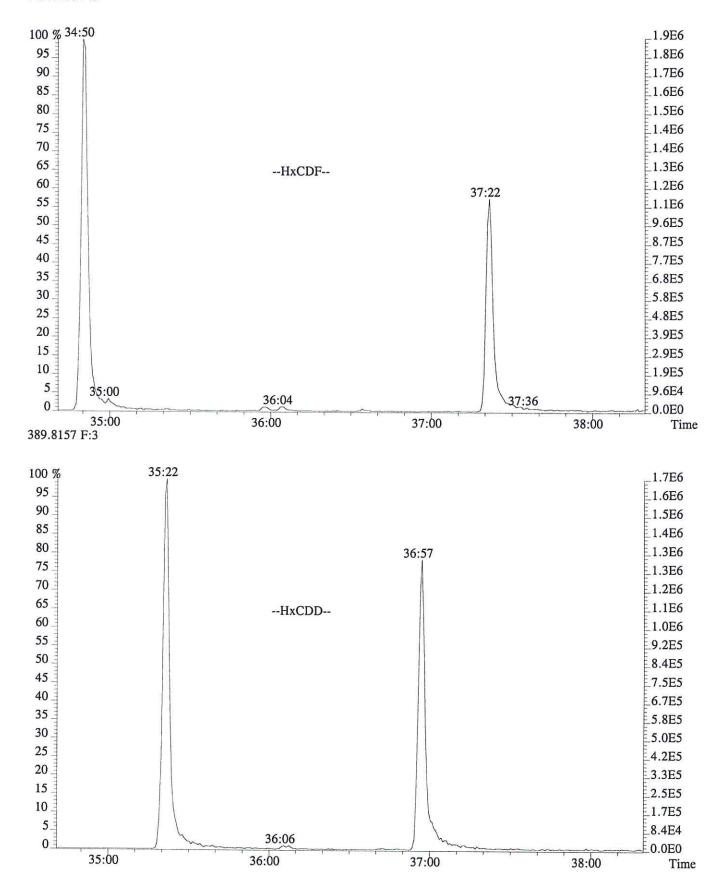


File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



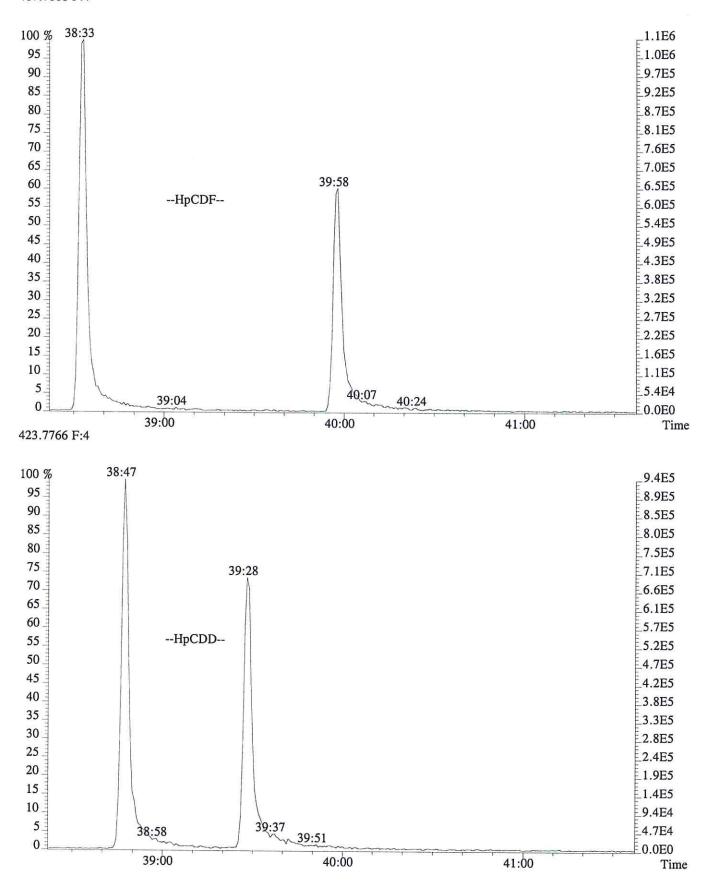
E1600326 270 of 326

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



E1600326 271 of 326

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 407.7818 F:4



SPME 5DFA5

CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental Lab Code: ALSTX Case No.: Contract No.:

TO No.:

SDG No.:

Instrument ID: E-HRMS-08

GC Column: DB-5MSUI ID: 0.25(mm)
Init. Calib. Date(s).: 06/25/16

Method: SPME

Init. Calib. Time.: 09:17

RR/RRF

			**			_	MEAN	
Target Analytes	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	QC LIMITS
2,3,7,8-TCDF	1.16	1.01	1.00	1.02	1.06	1.05	6.57	+/-20%
2,3,7,8-TCDD	0.95	0.91	0.97	0.97	0.98	0.96	2.86	+/-20%
2,3,4,7,8-PeCDF	0.89	0.91	0.93	0.95	0.96	0.93	3.18	+/-20%
13C-1,2,3,4-TCDF	1.31	1.44	1.07	1.32	1.49	1.33	12.37	+/-35%
13C-2,3,7,8-TCDF	1.27	1.24	1.29	1.30	1.31	1.28	1.98	+/-35%
13C-2,3,7,8-TCDD	0.91	0.90	0.94	0.94	0.95	0.93	2.27	+/-35%
13C-1,2,3,7,8-PeCDF	1.36	1.32	1.40	1.39	1.44	1.38	3.44	+/-35%
13C-2,3,4,7,8-PeCDF	1.35	1.32	1.38	1.37	1.43	1.37	2.94	+/-35%
13C-1,2,3,7,8,9-HxCDF	0.87	0.84	0.89	0.87	0.89	0.87	2.35	+/-35%
37C1-2,3,7,8-TCDD	0.88	0.92	0.96	0.96	1.01	0.94	5.24	+/-35%

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^{1.123789-}HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.

^{2.} OCDF RR is calculated based on the labeled analog of OCDD

SPME 6DFB6

CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

Lab Code: ALSTX Case No.:

TO No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25(mm)

Instrument ID: E-HRMS-08

Init. Calib. Date(s).: 06/25/16

Method SPME

Init. Calib. Time.: 09:17

ION ABUNDANCE RATIO

	SELECTED							ION RATIO
Target Analytes	IONS	C1	CS2	CS3	CS4	CS5	FLAG	QC lIMITS
2,3,7,8-TCDF	304/306	0.66	0.82	0.77	0.77	0.77		0.65-0.89
2,3,7,8-TCDD	320/322	0.68	0.79	0.78	0.79	0.78		0.65-0.89
2,3,4,7,8-PeCDF	340/342	1.56	1.53	1.55	1.56	1.55		1.32-1.78
13C-1,2,3,4-TCDF	316/318	0.80	0.80	0.80	0.79	0.80		0.65-0.89
13C-2,3,7,8-TCDF	316/318	0.82	0.80	0.80	0.80	0.80		0.65-0.89
13C-2,3,7,8-TCDD	332/334	0.78	0.77	0.78	0.78	0.78		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.63	1.60	1.60	1.60	1.61		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.62	1.60	1.60	1.61	1.58		1.32-1.78
13C-1,2,3,7,8,9-HxCDF	384/386	0.51	0.52	0.51	0.52	0.51		0.43-0.59
13C-1,2,3,4-TCDD	332/334	0.79	0.79	0.79	0.79	0.79		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.25	1.29	1.24	1.24	1.25		1.05-1.43

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

FORM VI-HR CDD-2

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ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173636

Filename P603982 Run #1 Samp: 1 Inj: 1 Acquired: 25-JUN-16 10:06:18 Processed: 25-JUN-16 11:04:04 Sample ID: CS1 Name RT-1 Typ Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:14 1.659e+02 0.66|yes 2.502e+02 0.957 yes 3 Unk 2,3,4,7,8-PeCDF | 33:19 1.262e+03 8.112e+02 1.56 yes no 0.929 11 Unk 2,3,7,8-TCDD 29:00 1.471e+02 2.158e+02 0.68 yes no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:13 3.924e+04 4.815e+04 0.82 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 5.787e+04 3.555e+04 1.63 yes no 1.381 13C-2,3,4,7,8-PeCDF | 33:18 20 IS 1.62|yes 5.732e+04 3.540e+04 no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:19 1.788e+04 3.501e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF | 26:58 4.003e+04 4.991e+04 0.80|yes yes 1.325 27 IS 13C-2,3,7,8-TCDD 28:59 2.727e+04 3.509e+04 0.78 yes no 0.929 33 RS/RT 13C-1,2,3,4-TCDD 28:23 3.030e+04 3.842e+04 0.79 yes no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:00 3.373e+04 2.692e+04 1.25 yes no 35 C/Up 37Cl-2,3,7,8-TCDD 29:00 3.012e+02 no 0.945

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ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173636

Run	#1 Filename P603982	Sam	p: 1 I	nj: 1	Acquired:	25-JUN-16	10:06:18
Proc	essed: 25-JUN-16 11:04	:04	LAB. I	D: CS1	574175 51 G		
						ř.	,
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	2.89e+04	1.68e+03	1.7e+01	4.53e+04	4.50e+03	1.0e+01
3	2,3,4,7,8-PeCDF	2.34e+05	1.24e+03	1.9e+02	1.53e+05	1.94e+03	7.9e+01
11	2,3,7,8-TCDD	2.46e+04	1.07e+03	2.3e+01	3.66e+04	1.37e+03	2.7e+01
18	13C-2,3,7,8-TCDF	6.69e+06	6.48e+03	1.0e+03	8.21e+06	The second second second	2.3e+03
19	13C-1,2,3,7,8-PeCDF	9.80e+06	1.39e+03	7.1e+03	6.08e+06	1.25e+04	4.8e+02
20	13C-2,3,4,7,8-PeCDF	1.05e+07	1.39e+03	7.6e+03	6.48e+06	1.25e+04	5.2e+02
24	13C-1,2,3,7,8,9-HxCDF	3.21e+06	1.12e+03	2.9e+03	6.25e+06	1.78e+03	3.5e+03
26	13C-1,2,3,4-TCDF	6.44e+06	6.48e+03	9.9e+02	8.07e+06	3.58e+03	2.3e+03
				2 2 3 3 5 6	and the second second		
27	13C-2,3,7,8-TCDD	4.87e+06	9.76e+03	5.0e+02	6.17e+06	4.64e+03	1.3e+03
33	13C-1,2,3,4-TCDD	5.55e+06	9.76e+03	5.7e+02	7.02e+06	4.64e+03	1.5e+03
34	13C-1,2,3,7,8,9-HxCDD	5.90e+06	2.00e+03	2.9e+03	4.65e+06	1.55e+03	3.0e+03
35	37C1-2,3,7,8-TCDD	5.73e+04	3.00e+03	3			secondaria (M. S. S.)

ALS ENVIRONMENTAL

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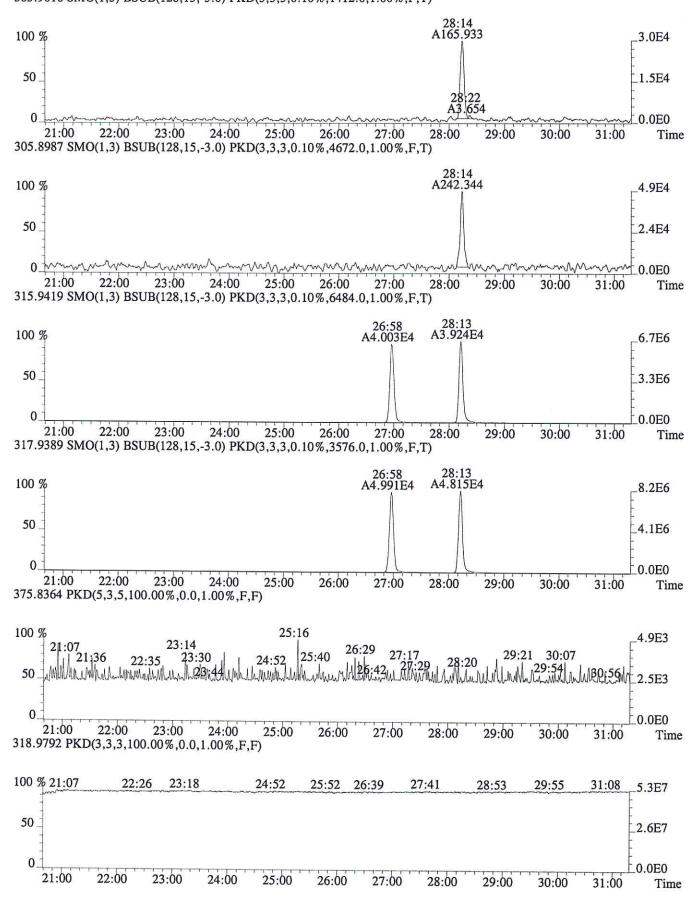
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

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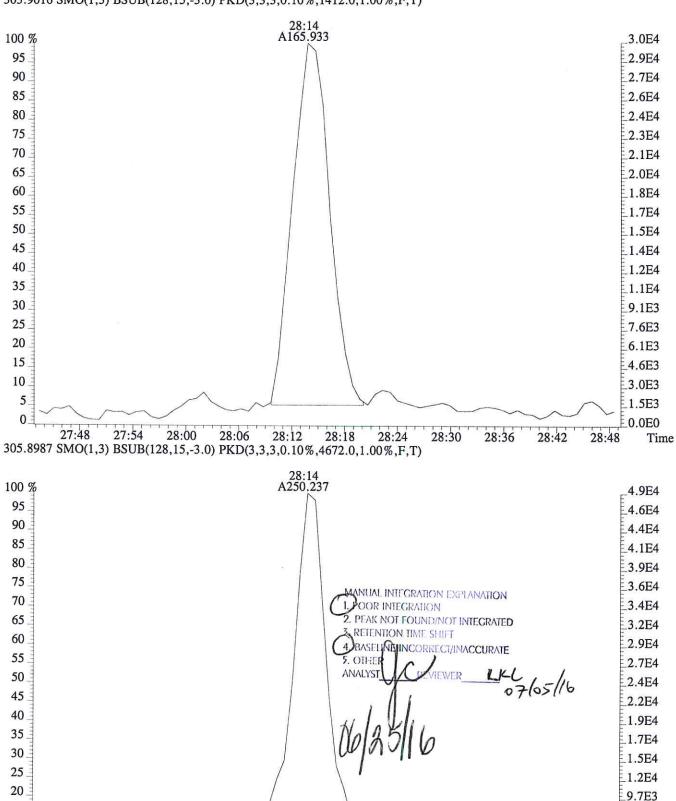
E1600326 276 of 326

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



E1600326 277 of 326

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



7.3E3

4.9E3

2.4E3

0.0E0

Time

28:48

28:00

28:06

28:12

28:18

28:24

28:30

28:36

28:42

15

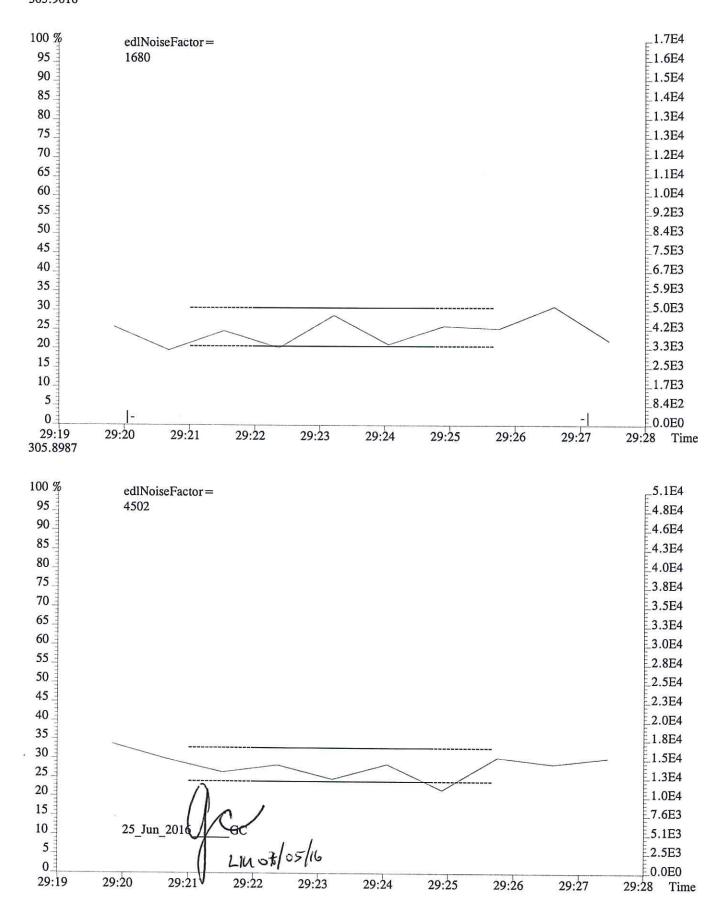
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5

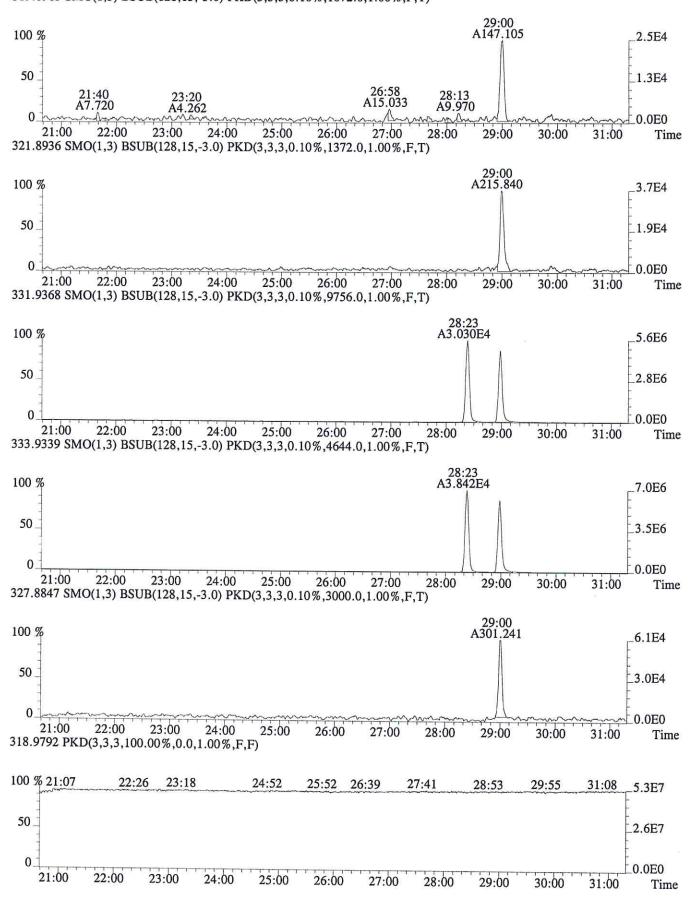
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27:48

27:54

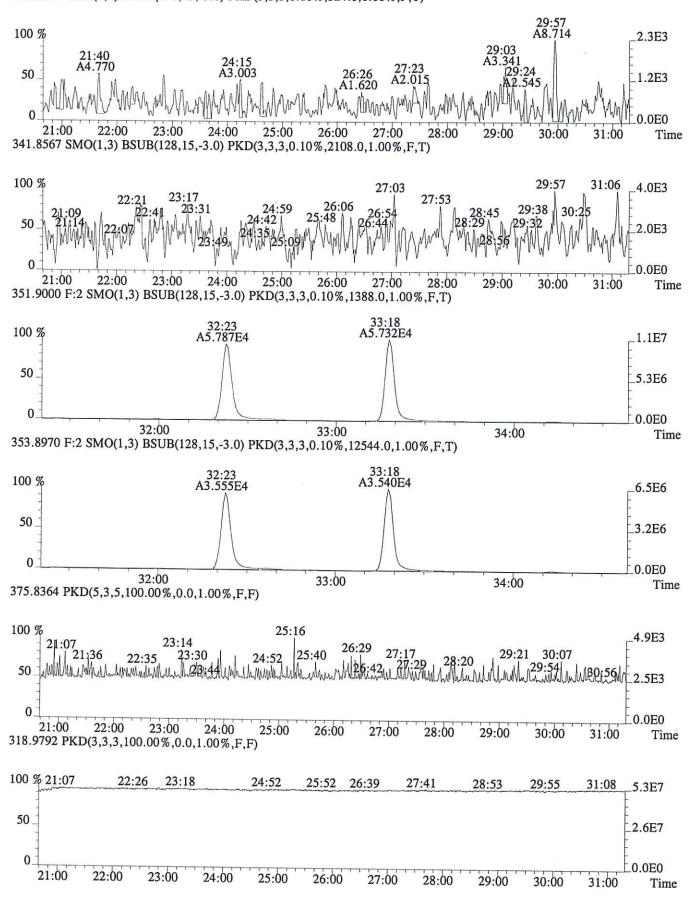


File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,T)

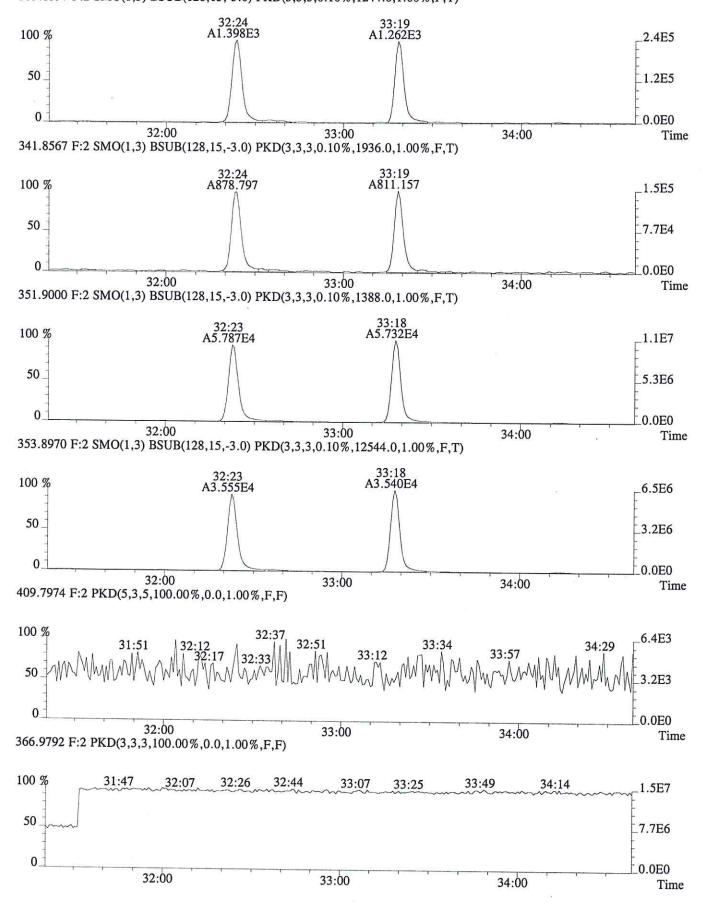


E1600326 280 of 326

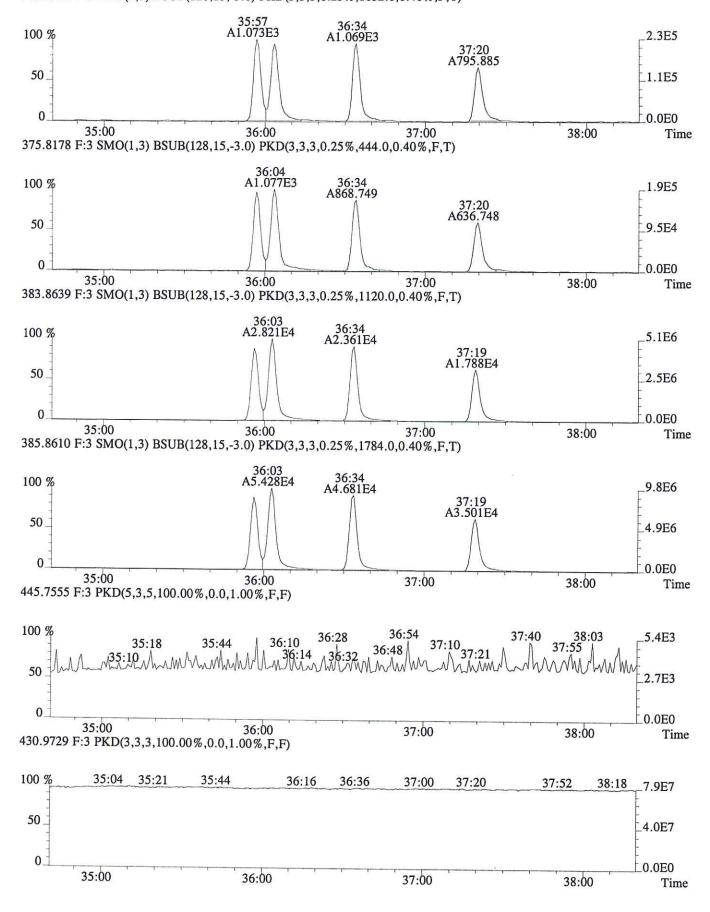
File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



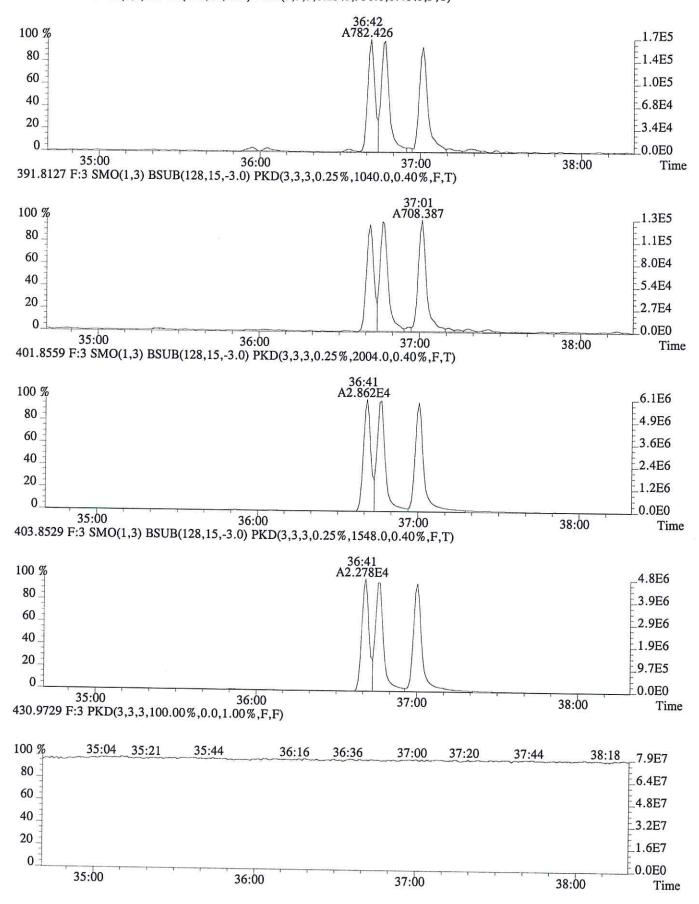
File:P603982 #1-298 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173637

Run #2 Filename P603983 Samp: 1 Acquired: 25-JUN-16 11:09:26 Inj: 1 Processed: 25-JUN-16 13:05:01 Sample ID: CS2 Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:16 6.799e+02 8.314e+02 0.82 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 4.821e+03 3.158e + 031.53 yes 0.929 no 11 Unk 2,3,7,8-TCDD 29:01 5.343e+020.79 yes 6.795e+02 1.048 no 18 IS 13C-2,3,7,8-TCDF | 28:14 3.694e + 044.596e+04 0.80 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 5.402e+043.368e+04 1.60 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:19 5.416e+04 3.394e+041.60 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF 37:20 1.659e+04 3.192e+04 0.52 yes 0.875 no 26 IS 13C-1,2,3,4-TCDF 26:59 4.274e+04 5.355e+04 0.80 yes 1.325 yes 27 IS 13C-2,3,7,8-TCDD 29:00 2.625e+04 3.404e+04 0.77 yes 0.929 no 33 RS/RT 13C-1,2,3,4-TCDD 28:24 2.934e+04 3.730e+040.79 yes no 34 RS/RT 13C-1,2,3,7,8,9-HxCDD 37:01 3.239e+04 2.513e+04 1.29 yes no 35 C/Up 37C1-2,3,7,8-TCDD 29:00 1.225e+03 no 0.945

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Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID

Run #2 Filename P603983 Samp: 1 Inj: 1 Acquired: 25-JUN-16 11:09:26 Processed: 25-JUN-16 13:05:01 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.17e+05	1.48e+03	7.9e+01	1.52e+05	4.36e+03	3.5e+01
3	2,3,4,7,8-PeCDF	8.88e+05	2.05e+03	4.3e+02	5.85e+05	3.36e+03	1.7e+02
11	2,3,7,8-TCDD	9.48e+04	1.46e+03	6.5e+01	1.18e+05	1.44e+03	8.2e+01
18	13C-2,3,7,8-TCDF	6.40e+06	6.69e+03	9.6e+02	7.94e+06	4.12e+03	1.9e+03
19	13C-1,2,3,7,8-PeCDF	9.08e+06	1.90e+04	4.8e+02	5.70e+06	9.55e+03	6.0e+02
20	13C-2,3,4,7,8-PeCDF	9.94e+06	1.90e+04	5.2e+02	6.21e+06	9.55e+03	6.5e+02
24	13C-1,2,3,7,8,9-HxCDF	2.98e+06	1.04e+03	2.9e+03	5.77e+06	2.19e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.93e+06	6.69e+03	1.0e+03	8.59e+06	4.12e+03	2.1e+03
	46			•		27	
27	13C-2,3,7,8-TCDD	4.74e+06	9.28e+03	5.1e+02	6.17e+06	3.62e+03	1.7e+03
33	13C-1,2,3,4-TCDD	5.42e+06	9.28e+03	5.8e+02	6.85e+06	3.62e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	5.54e+06	2.31e+03	2.4e+03	4.38e+06	1.60e+03	2.7e+03
35	37Cl-2,3,7,8-TCDD	2.19e+05	2.42e+03	9.0e+01			

ALS ENVIRONMENTAL

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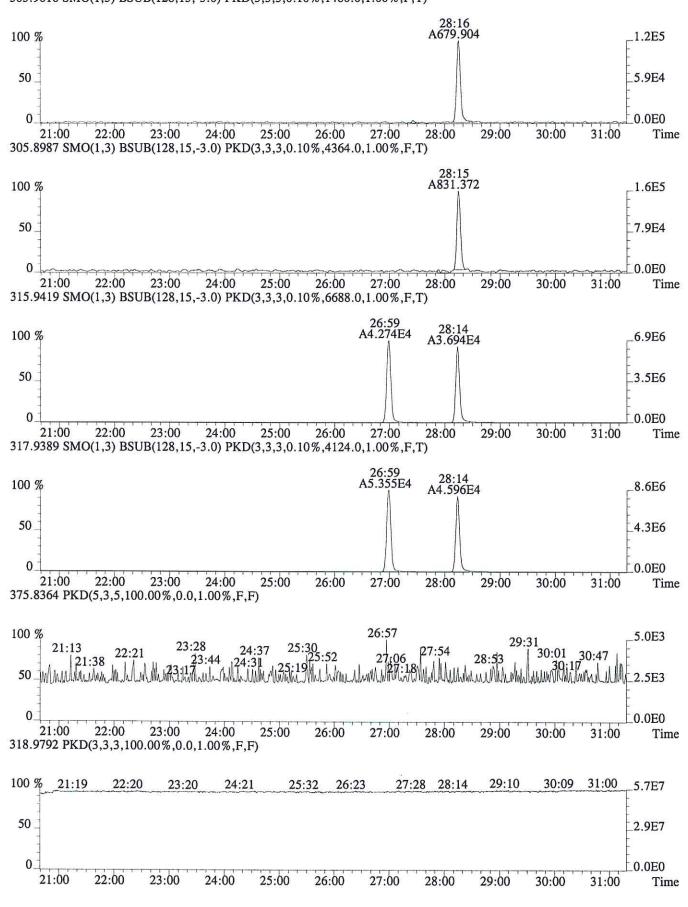
Houston, TX 77099

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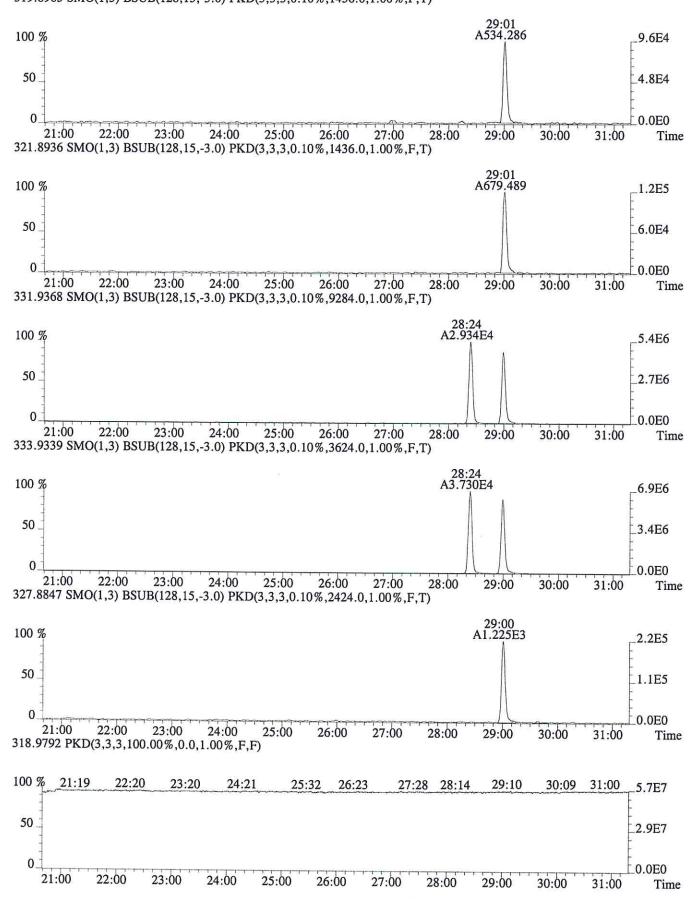
E1600326 286 of 326

File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1480.0,1.00%,F,T)

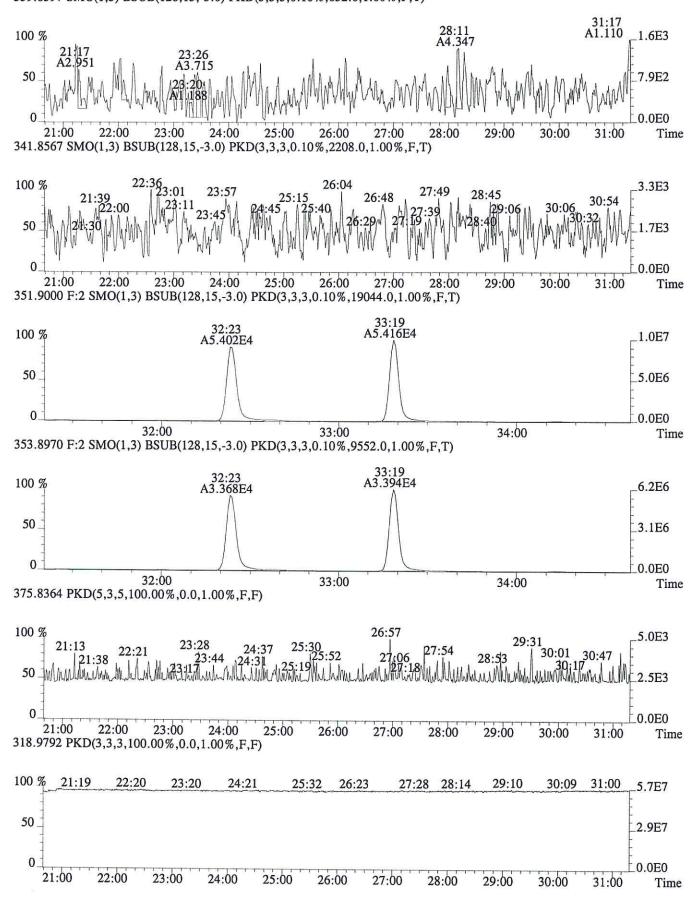


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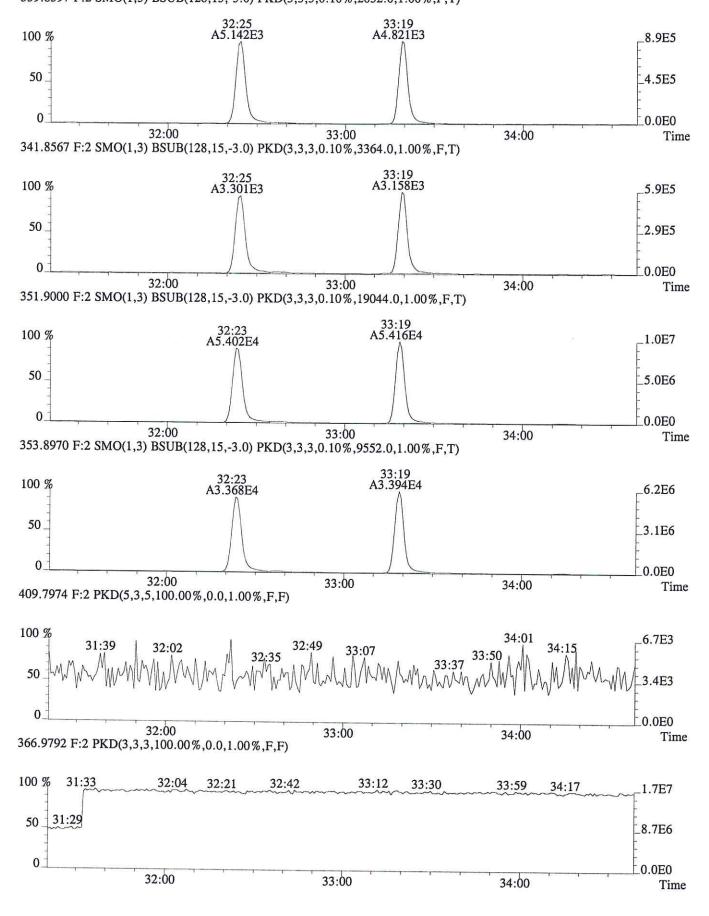
File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)

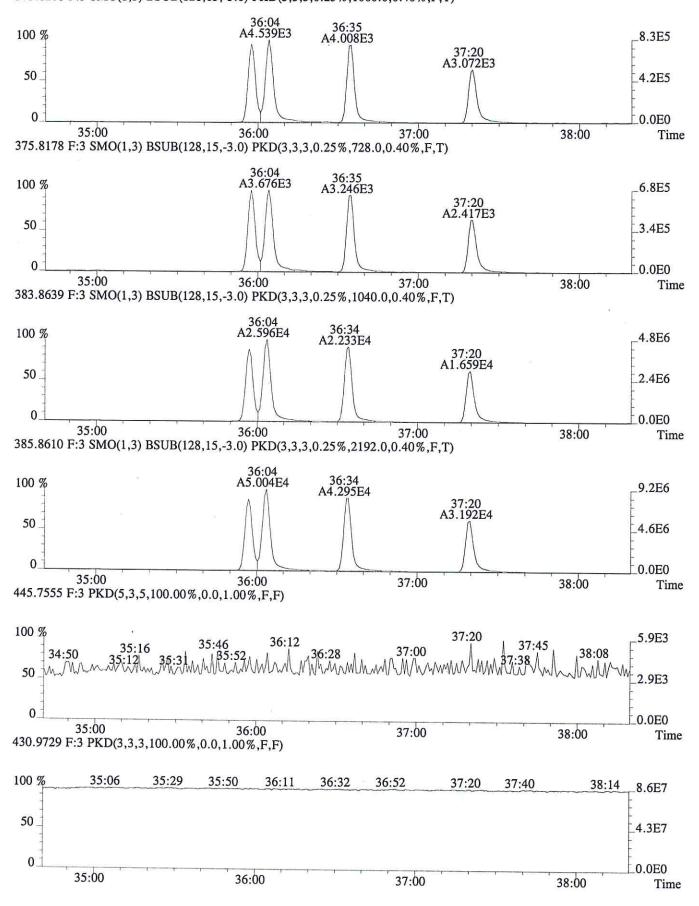


File:P603983 #1-298 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2052.0,1.00%,F,T)

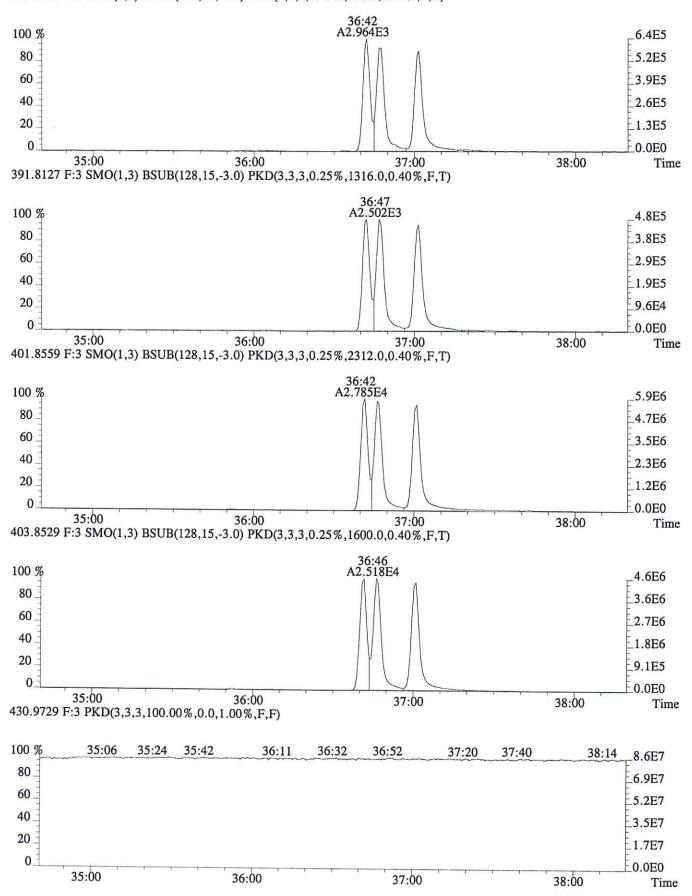


E1600326 290 of 326

File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

Run #3 Processed	Filename P603984 : 25-JUN-16 13:05:01	Samp: 1 Sampl	Inj: 1 le ID: CS3	Acquired:	25-JUN-16 1	1:55:54	
Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:14 6.	.879e+03	8.895e+03	0.77 yes	no	0.957
3 Unk	2,3,4,7,8-PeCDF	33:19 4.	.946e+04	3.185e+04	1.55 yes	no	0.929
11 Unk	2,3,7,8-TCDD	29:00 5.	.200e+03	6.636e+03	0.78 yes	no	1.048
18 IS	13C-2,3,7,8-TCDF	28:13 7.	.245e+04	9.072e+04	0.80 yes	no	1.283
19 IS	13C-1,2,3,7,8-PeCDF	32:23 1.	.083e+05	6.772e+04	1.60 yes	no	1.381
20 IS	13C-2,3,4,7,8-PeCDF	33:18 1.	.074e+05	6.710e+04	1.60 yes	no	1.371
24 IS	13C-1,2,3,7,8,9-HxCDF	37:19 3.	.456e+04	6.770e+04	0.51 yes	no	0.875
26 IS	13C-1,2,3,4-TCDF	26:58 5.	.981e+04	7.456e+04	0.80 yes	yes	1.325
27 IS	13C-2,3,7,8-TCDD	28:59 5.	.212e+04	6.669e+04	0.78 yes	lno	0.929
33 RS/RT	13C-1,2,3,4-TCDD	28:23 5.	.576e+04	7.031e+04	0.79 yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00 6.	.329e+04	5.113e+04	1.24 yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:00 1.	.213e+04		, 1.5	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173638

Run #3 Filename P603984 Samp: 1 Inj: 1 Acquired: 25-JUN-16 11:55:54 Processed: 25-JUN-16 13:05:01 LAB. ID: CS3 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF| 1.22e+06| 1.06e+03| 1.2e+03| 1.59e+06| 4.41e+03| 3.6e + 023 2,3,4,7,8-PeCDF | 9.20e+06 | 1.30e+04 | 7.1e+02 | 6.00e+06 | 9.93e+03 6.0e + 022,3,7,8-TCDD | 9.42e+05 | 1.36e+03 | 6.9e+02 | 11 1.22e+06 1.25e+03 9.7e + 0218 13C-2,3,7,8-TCDF 1.28e+07 4.69e+03 2.7e+03 3.17e+03 5.0e+03 1.60e+07 19 13C-1,2,3,7,8-PeCDF 1.89e+07 2.06e+04 | 9.2e+02 1.20e+07 1.57e+04 7.6e + 0220 13C-2,3,4,7,8-PeCDF 2.06e+04 | 9.9e+02 2.04e+07 1.28e+07 1.57e+04 8.2e + 0224 13C-1,2,3,7,8,9-HxCDF 6.60e+06 2.15e+03 3.1e+03 1.28e+07 | 2.19e+03 | 5.8e + 0326 13C-1,2,3,4-TCDF| 9.83e+06| 4.69e+03| 2.1e+03| 1.24e+07| 3.17e+03| 3.9e+03 27 13C-2,3,7,8-TCDD | 9.62e+06 | 9.05e+03 | 1.1e+03 | 1.23e+07 | 4.67e+03 | 2.6e+03 33 13C-1,2,3,4-TCDD 1.05e+07 9.05e+03 | 1.2e+03 | 1.32e+07 | 4.67e+03 | 2.8e+03 34 13C-1,2,3,7,8,9-HxCDD 1.20e+07 1.94e+03 | 6.2e+03 | 9.53e+06 | 1.50e+03 | 6.4e+03

37Cl-2,3,7,8-TCDD | 2.22e+06 | 2.64e+03 | 8.4e+02

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35

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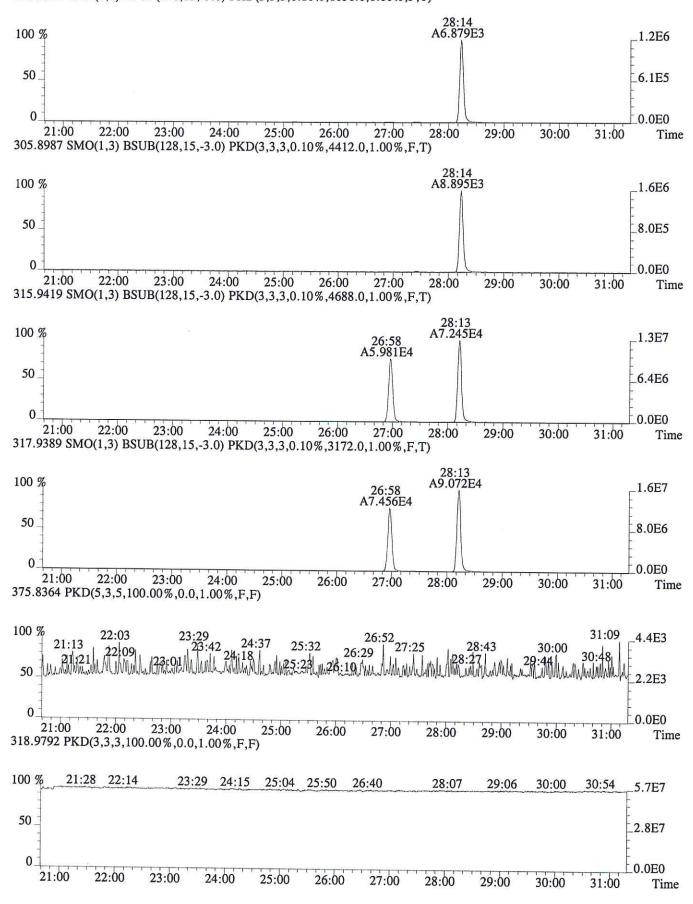
Houston, TX 77099

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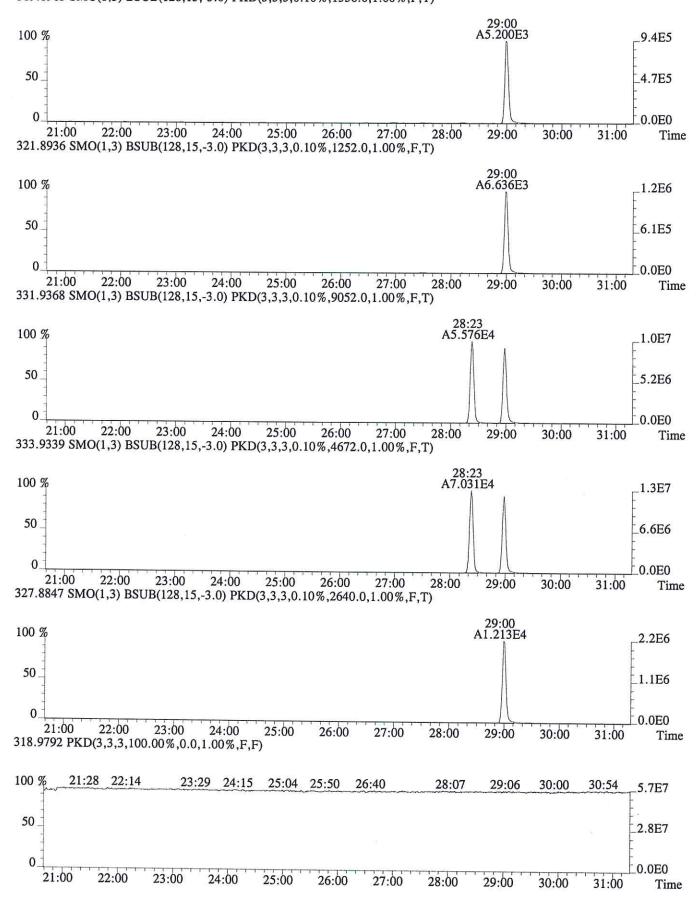
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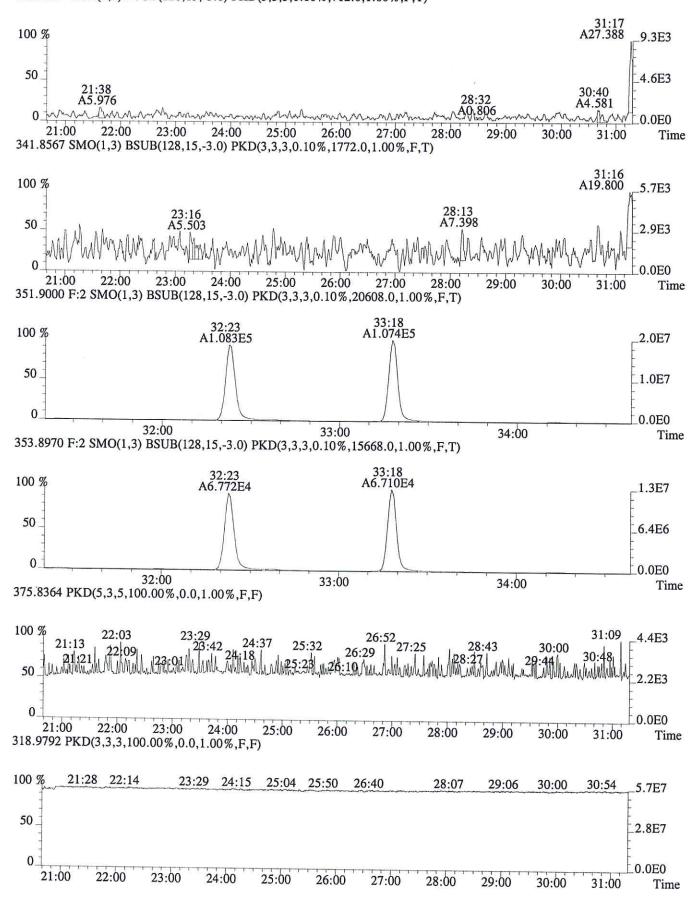
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)



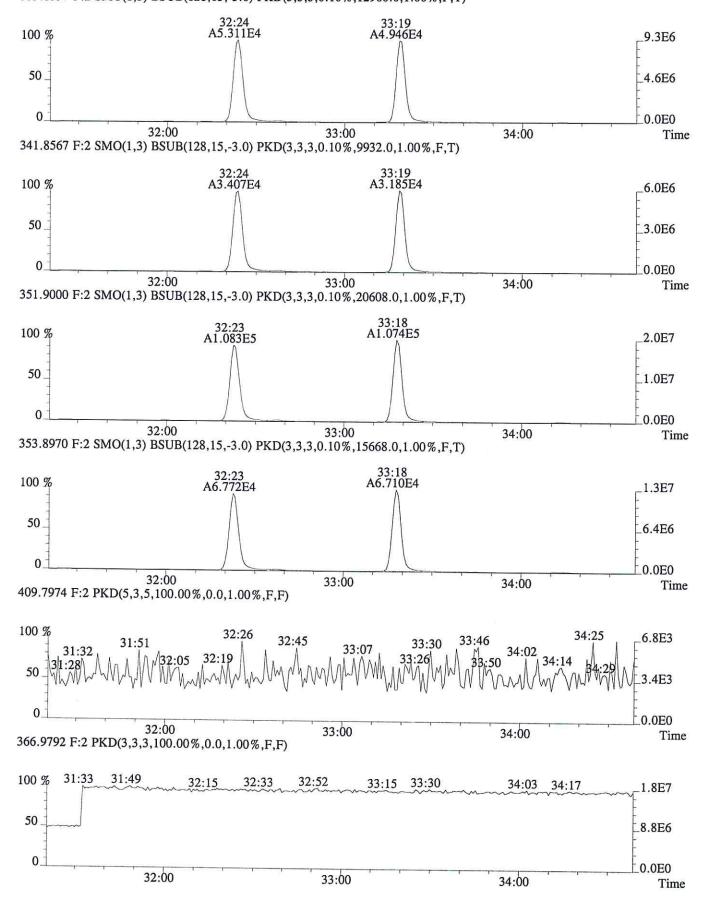
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



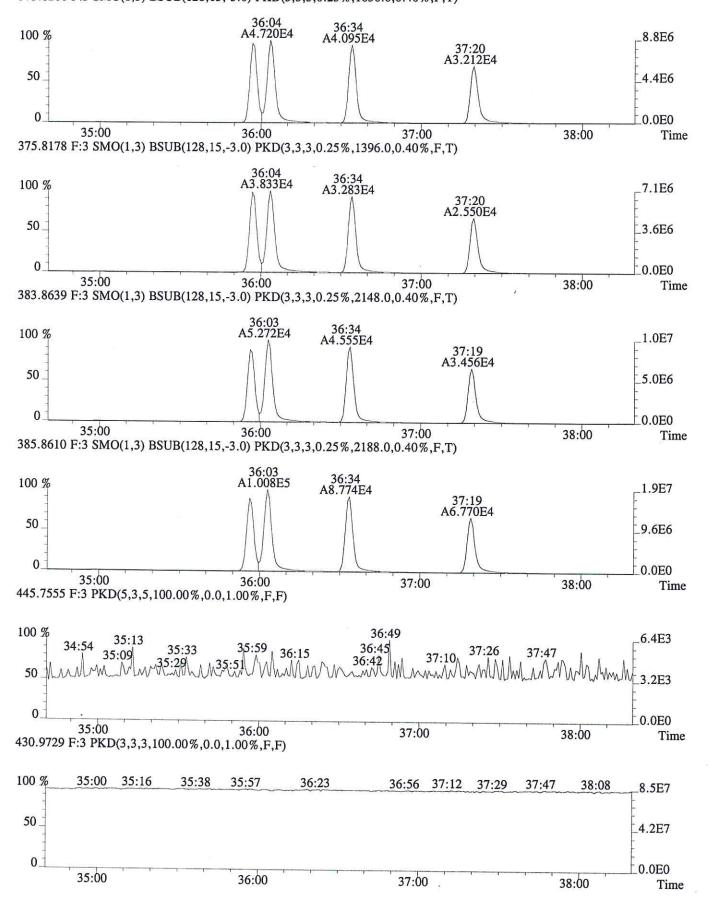
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



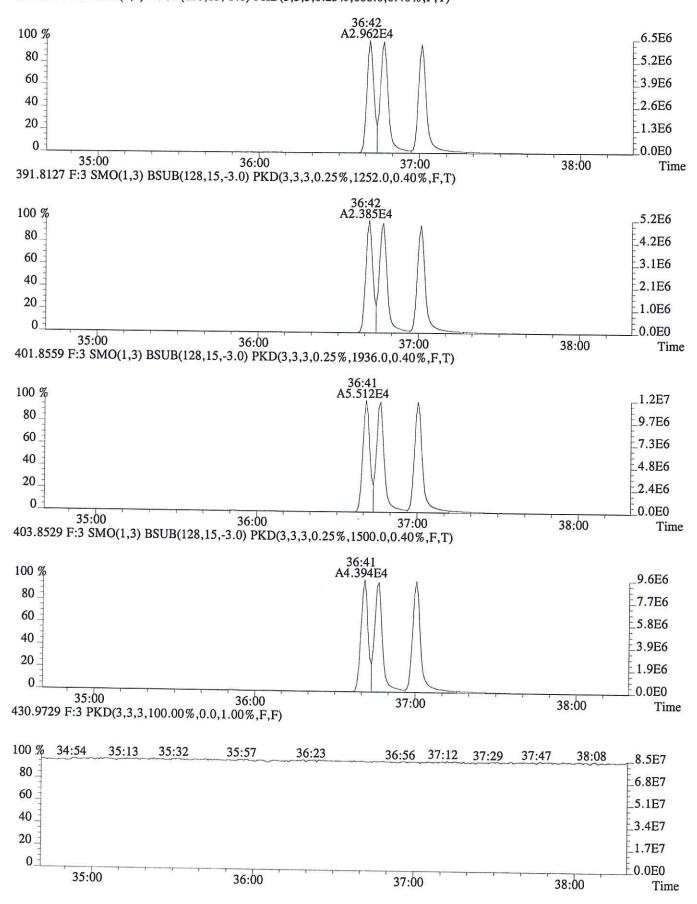
File:P603984 #1-298 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12960.0,1.00%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

Samp: 1

CLIENT ID. 173639

Acquired: 25-JUN-16 12:52:51

0.52 yes

0.78 yes

0.79 yes

1.24 yes

0.79 yes

no

yes

no

no

no

no

0.875

1.325

0.929

0.945

3.842e+04

5.368e+04

3.830e+04

4.076e+04

2.987e+04

Processed: 25-JUN-16 15:59:58 Sample ID: CS4 Тур Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:15 1.595e+04 2.078e+04 0.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 1.157e+05 7.439e+041.56 yes 0.929 no 11 Unk 2,3,7,8-TCDD | 29:00 1.221e+04 0.79 yes 1.554e+04 no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:14 4.217e+04 5.242e+04 0.80 yes 1.283 no 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 6.222e+04 3.890e+04 1.60 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:19 6.169e+04 3.829e+04 1.61 yes no 1.371

2.000e+04

3.003e+04

3.211e+04

3.705e+04

2.794e+04

4.265e+04

Inj: 1

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Run #4

24 IS

26 IS

27 IS

33 RS/RT

34 RS/RT

35 C/Up

Filename P603985

13C-1,2,3,7,8,9-HxCDF | 37:19

13C-1,2,3,7,8,9-HxCDD 37:00

13C-1,2,3,4-TCDF 26:59

13C-2,3,7,8-TCDD 29:00

13C-1,2,3,4-TCDD 28:24

37C1-2,3,7,8-TCDD 29:00

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID

Run #4 Filename P603985 Samp: 1 Inj: 1 Acquired: 25-JUN-16 12:52:51

Processed: 25-JUN-16 15:59:58 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	N Rat.2
1	2,3,7,8-TCDF	2.81e+06	1.30e+03	2.2e+03	3.64e+06	4.14e+03	8.8e+02
3	2,3,4,7,8-PeCDF	2.21e+07	2.52e+04	8.8e+02	1.43e+07	2.29e+04	6.2e+02
11	2,3,7,8-TCDD	2.23e+06	1.02e+03	2.2e+03	2.90e+06	1.31e+03	2.2e+03
18	13C-2,3,7,8-TCDF	7.32e+06	6.01e+03	1.2e+03	9.03e+06	4.38e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	1.09e+07	1.48e+04	7.4e+02	6.85e+06	8.31e+03	8.2e+02
20	13C-2,3,4,7,8-PeCDF	1.18e+07	1.48e+04	8.0e+02	7.28e+06	8.31e+03	8.8e+02
24	13C-1,2,3,7,8,9-HxCDF	3.79e+06	8.16e+02	4.6e+03	7.39e+06	2.79e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.97e+06	6.01e+03	1.2e+03	8.78e+06	4.38e+03	2.0e+03
				9			
27	13C-2,3,7,8-TCDD	5.43e+06	9.69e+03	5.6e+02	6.86e+06	4.18e+03	1.6e+03
33	13C-1,2,3,4-TCDD	5.94e+06	9.69e+03	6.1e+02	7.48e+06	4.18e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	6.80e+06	2.05e+03	3.3e+03	5.47e+06	2.34e+03	2.3e+03
35	37C1-2,3,7,8-TCDD	5.21e+06	2.06e+03	2.5e+03			

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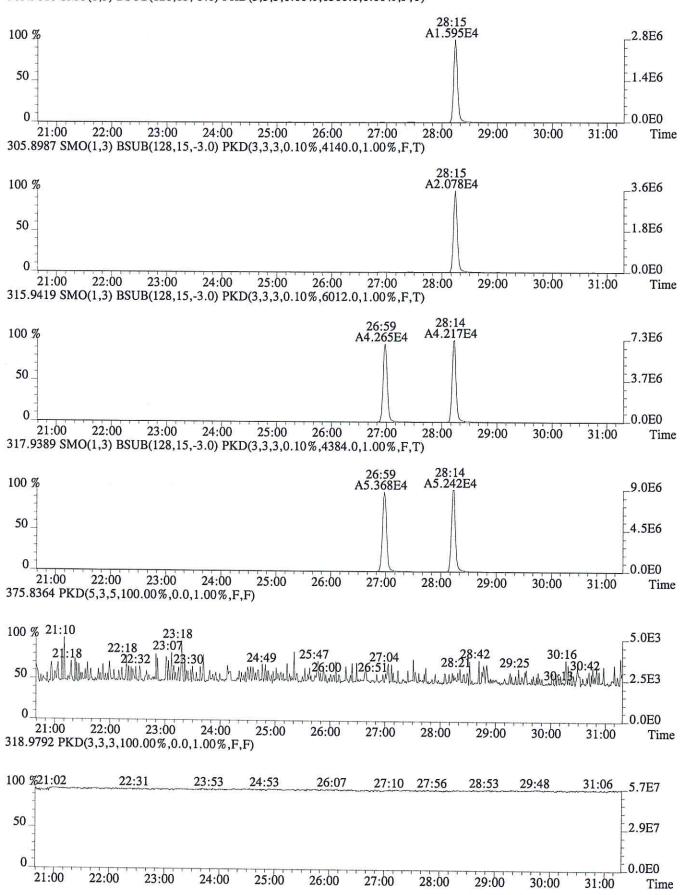
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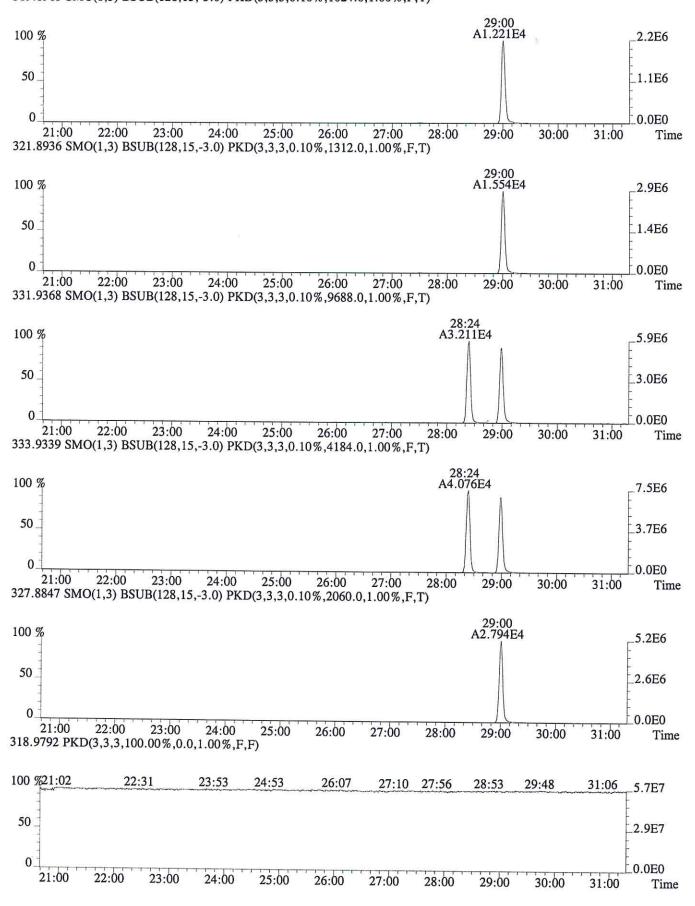
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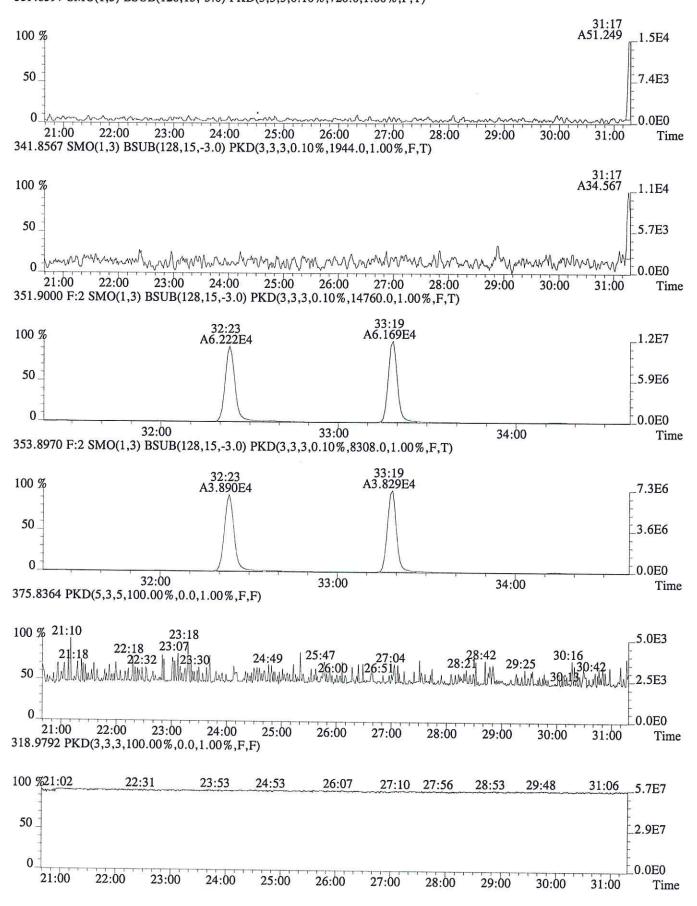
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



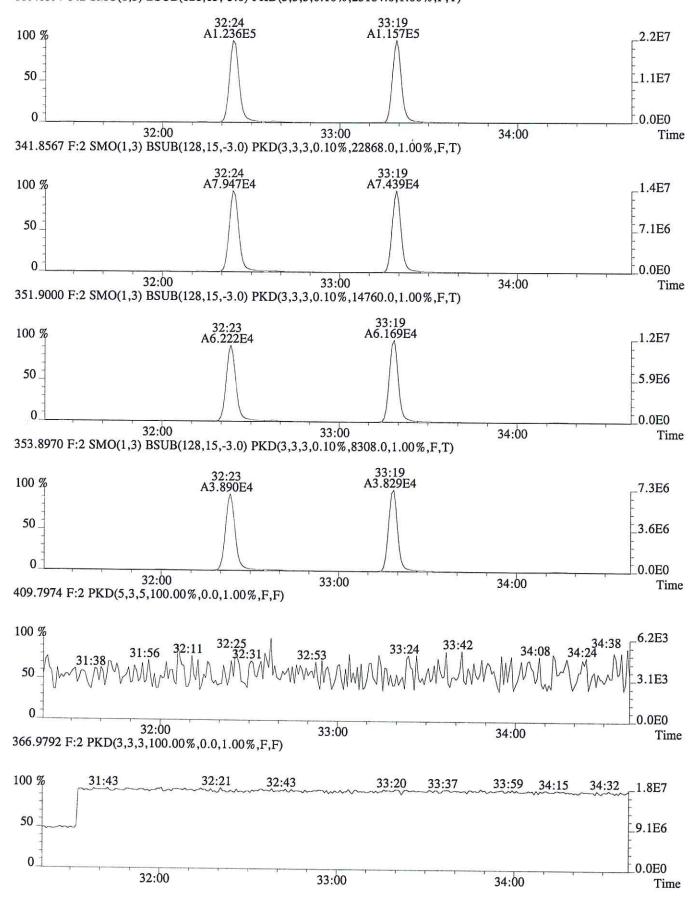
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



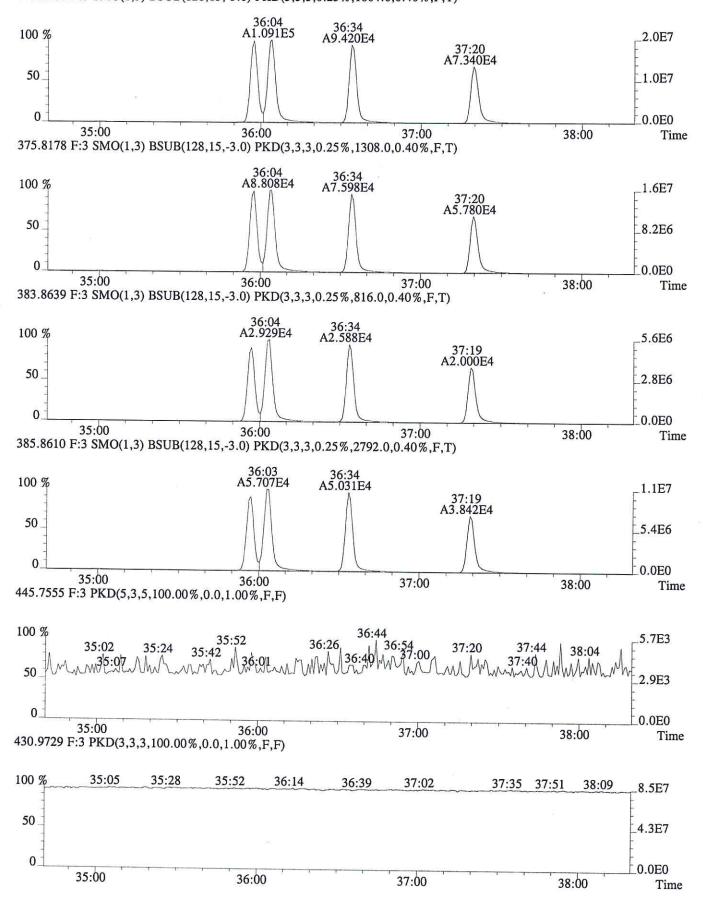
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



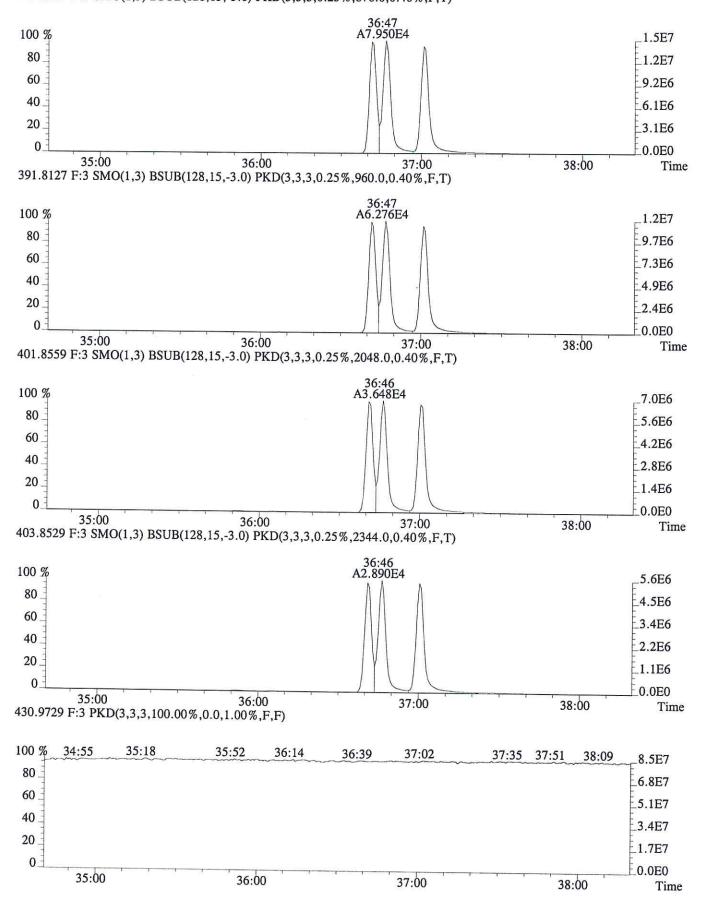
File:P603985 #1-298 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25184.0,1.00%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1804.0,0.40%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

Samp: 1

CLIENT ID. 173640

0.78 yes

0.79|yes

| 1.25|yes

no

no

no

no

0.929

0.945

Inj: 1 Acquired: 25-JUN-16 13:45:46 Processed: 25-JUN-16 15:59:59 Sample ID: CS5 Тур Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF 28:14 8.193e+04 1.059e+05 0.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 6.139e+05 3.954e+05 1.55 yes no 0.929 11 Unk 2,3,7,8-TCDD | 29:00 6.435e+04 8.269e + 040.78 yes no 1.048 18 IS 13C-2,3,7,8-TCDF | 28:13 4.256e+04 5.313e+040.80 yes no 1.283 19 IS 1.61|yes 13C-1,2,3,7,8-PeCDF | 32:23 6.522e+04 4.053e+04 no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:18 6.412e+04 4.053e+04 1.58 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:18 2.154e+04 4.185e+04 0.51 yes no 0.875 26 IS 13C-1,2,3,4-TCDF | 26:58 4.844e+04 6.029e+04 0.80 yes yes 1.325

3.050e+04

3.234e+04

3.943e+04

1.476e+05

3.908e + 04

4.086e+04

3.156e+04

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Run #5

27 IS

33 RS/RT

35 C/Up

34 RS/RT

Filename P603986

13C-2,3,7,8-TCDD 28:59

13C-1,2,3,4-TCDD 28:23

37Cl-2,3,7,8-TCDD 29:00

13C-1,2,3,7,8,9-HxCDD 37:00

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173640

Run	#5 Filename P603986	Sam	p: 1 I:	nj: 1	Acquired:	25-JUN-16	13:45:46			
Proc	essed: 25-JUN-16 15:59	:59	LAB. I	D: CS5	Control (market)					
	Name Signal 1 Noise 1 S/N Rat.1 Signal 2 Noise 2 S/N Rat.2									
	name bighai i noise i 5/N kac.i Sighai z Noise z 5/N kac.z									
1	2,3,7,8-TCDF	1.48e+07	1.26e+03	1.2e+04	1.91e+07	4.39e+03	4.3e+03			
3	2,3,4,7,8-PeCDF	1.21e+08	1.23e+05	1 2 E. E. E.		The profession and an extension of				
	9 E 19 E				7.74e+07	7.44e+04	1.0e+03			
11	2,3,7,8-TCDD	1.25e+07	1.75e+03	7.1e+03	1.59e+07	1.15e+03	1.4e + 04			
18	13C-2,3,7,8-TCDF	7.51e+06	5.53e+03	1.4e+03	9.32e+06	2.96e+03	3.1e + 03			
19	13C-1,2,3,7,8-PeCDF	1.19e+07	1.41e+04	8.4e+02	7.38e+06	7.98e+03	9.3e+02			
20	13C-2,3,4,7,8-PeCDF	1.24e+07	1.41e+04	8.8e+02	7.76e+06	7.98e+03	9.7e+02			
24	13C-1,2,3,7,8,9-HxCDF	4.21e+06	1.34e+03	3.1e+03	8.22e+06	2.01e+03	4.1e+03			
26	13C-1,2,3,4-TCDF	8.06e+06	5.53e+03	1.5e+03	1.01e+07	2.96e+03	3.4e+03			
	·					THE PERSON NAMED IN				
27	13C-2,3,7,8-TCDD	5.76e+06	8.03e+03	7.2e+02	7.36e+06	3.50e+03	2.1e+03			
33	13C-1,2,3,4-TCDD	6.04e+06	8.03e+03		7.69e+06	3.50e+03	2.2e+03			
34	13C-1,2,3,7,8,9-HxCDD	7.59e+06	2.36e+03		6.21e+06	1.56e+03	4.0e+03			
35	37C1-2,3,7,8-TCDD	2.82e+07	2.23e+03		0.210100	1.500+05	1.00703			
	3,61 2,3,7,6-1000	2.020+0/	4.230+03	1.36+04						

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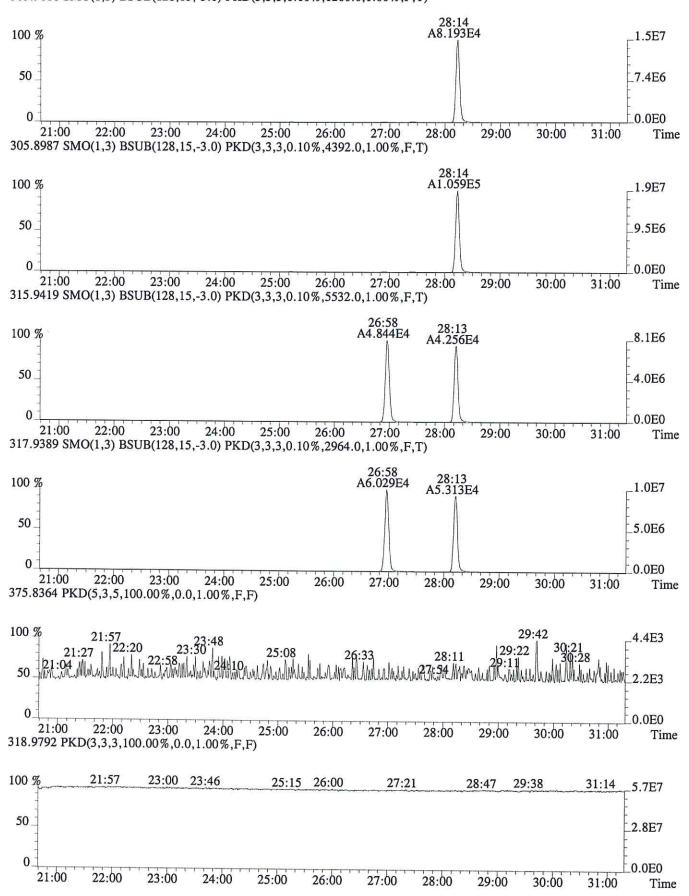
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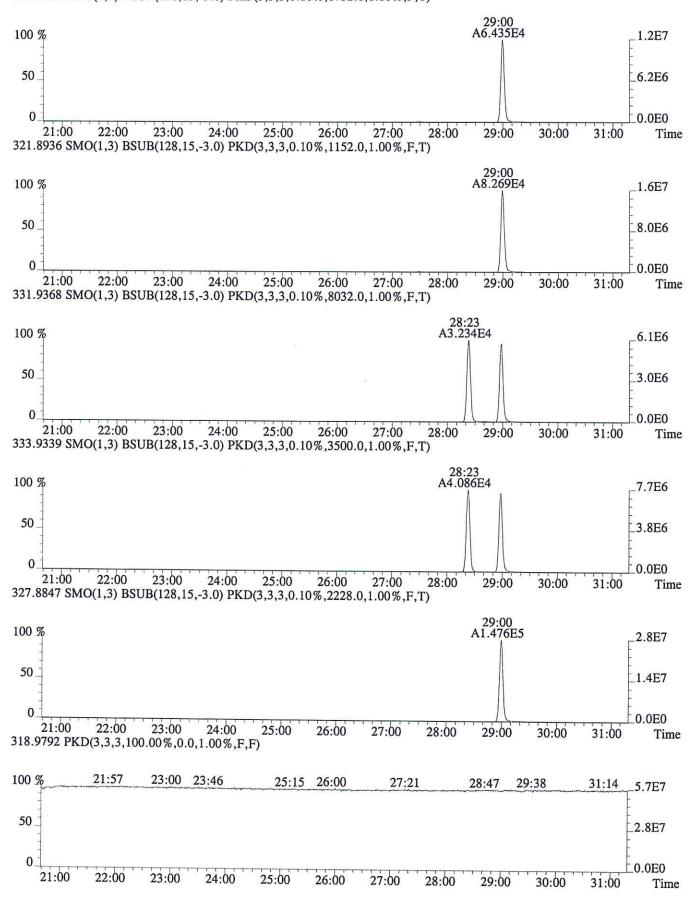
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File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



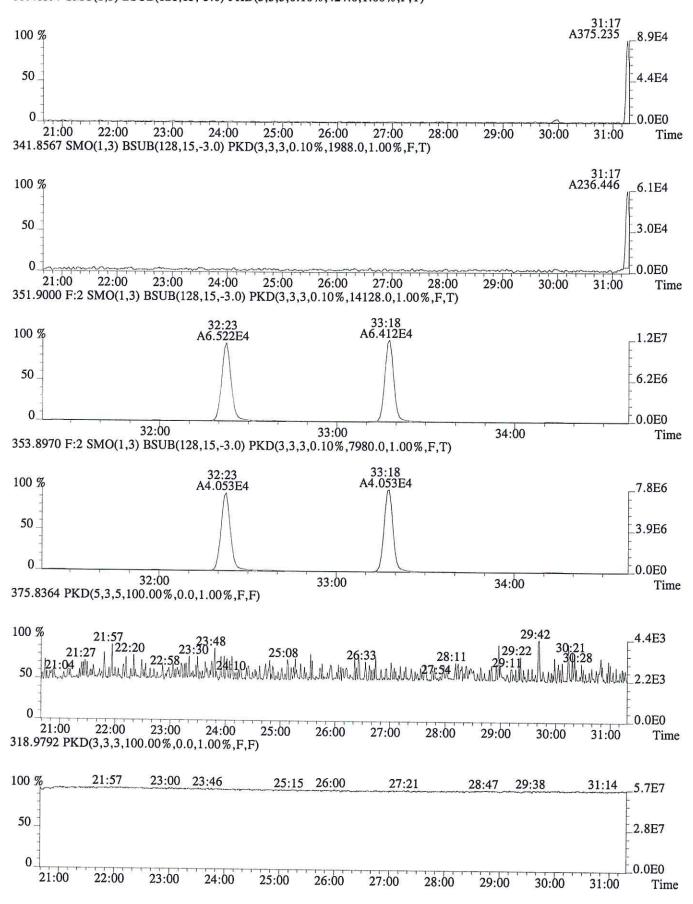
File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



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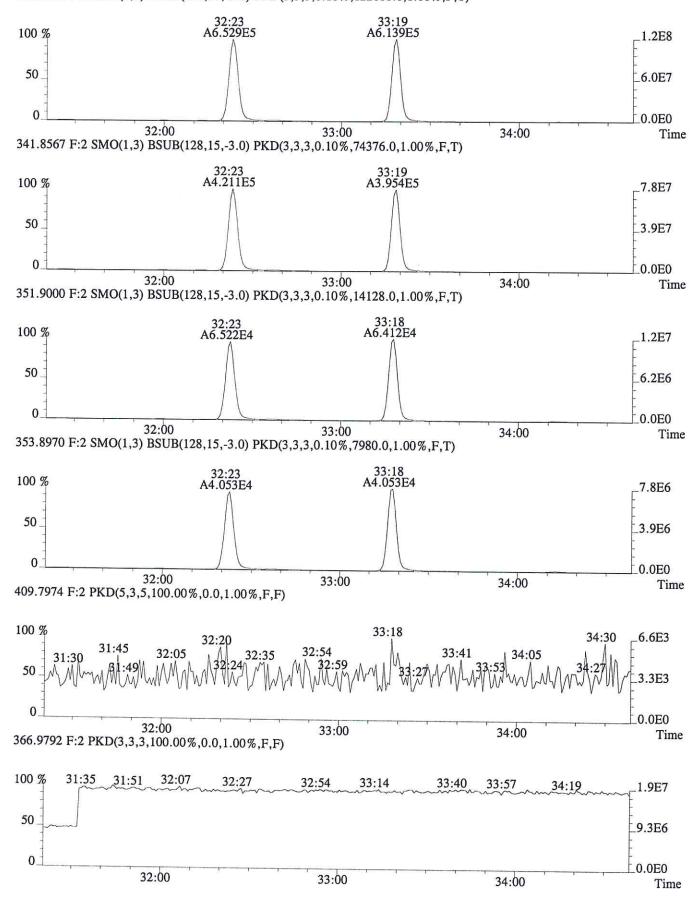
E1600326

File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)

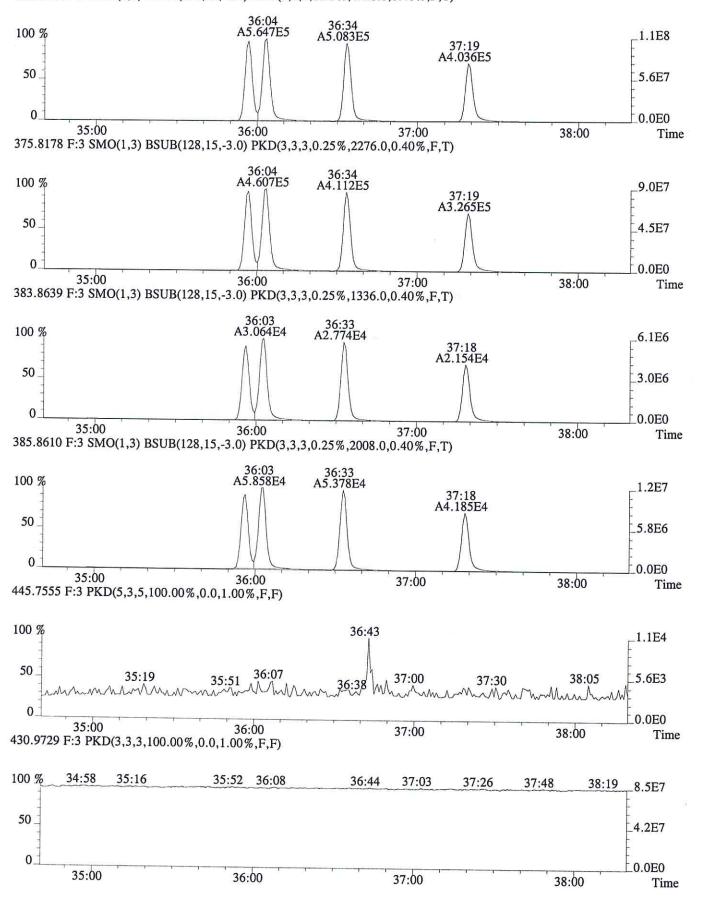


E1600326 313 of 326

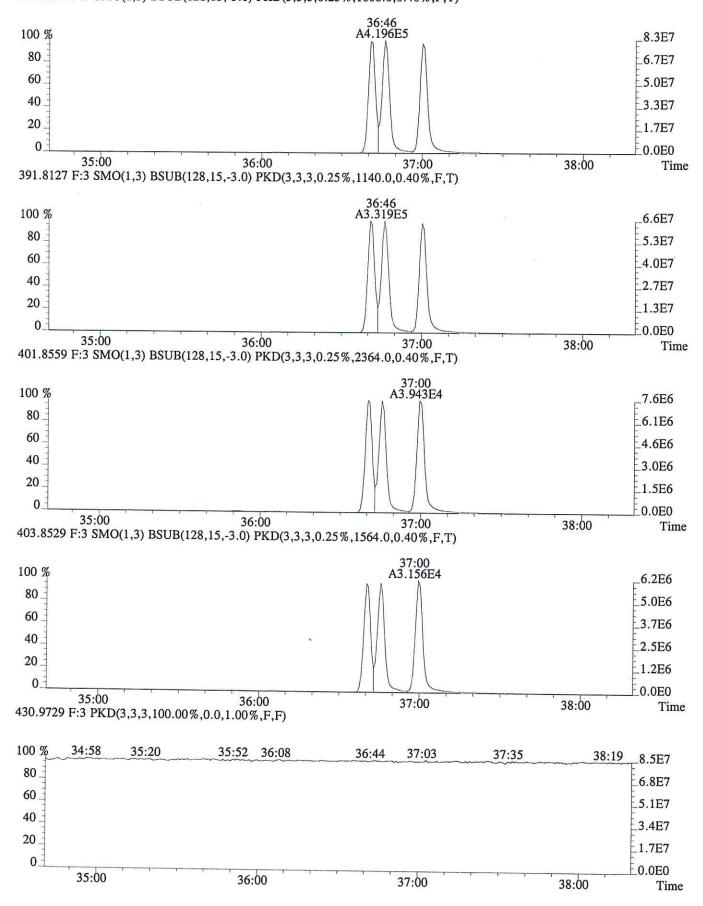
File:P603986 #1-298 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,122600.0,1.00%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4228.0,0.40%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.40%,F,T)



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	4.8 3	.9 - 6.45	-4.8
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	5.0 4	.2 - 6.0	-0.5
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	26.6 2	0.5 - 30.5	6.3

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
Method 8290
12/2012
1613F4A.FRM

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	51	41 - 60.5	2.0
13C-1,2,3,4-TCDF	M/M+2	0.80	0.65-0.89	50	35.5-70	-0.6
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.79 1.60	0.65-0.89 1.32-1.78	50 51	35.5-70 38 - 65	0.5 1.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	48	38.5 - 65	-3.0
13C-1,2,3,7,8,9-HxCD	F	0.52	0.43-0.59	53	37 - 67.5	6.3
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	-0.2

(4)

12/2012 1613F4B.FRM

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. CS3 2ND SOURCE

Run #6 Filename P603988 Samp: 1 Inj: 1 Acquired: 25-JUN-16 15:21:10 Processed: 26-JUN-16 09:08:05 Sample ID: CS3 2ND SOURCE

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:14	4.564e+03	5.813e+03	0.79 yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	3.377e+04	2.175e+04	1.55 yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	3.506e+03	4.480e+03	0.78 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	4.824e+04	6.074e+04	0.79 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	7.291e+04	4.564e+04	1.60 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	6.894e+04	4.348e+04	1.59 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	2.364e+04	4.591e+04	0.52 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:58	4.958e+04	6.170e+04	0.80 yes	yes	1.324
	IS	13C-2,3,7,8-TCDD	28:58	3.515e+04	4.490e+04	0.78 yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	3.742e+04	4.711e+04	0.79 yes	no	1-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	4.269e+04	3.208e+04	1.33 yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	7.970e+03			no	0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

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Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. CS3 2ND SOURCE

Run	#6 Filename P603988	Sam	p: 1 Ir	ıj: 1	Acquired:	25-JUN-16	15:21:10
Proc	essed: 26-JUN-16 09:08	:05	LAB. II	: CS3 2ND	SOURCE		
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	8.14e+05	1.32e+03	6.2e+02	1.04e+06	3.51e+03	3.0e+02
3	2,3,4,7,8-PeCDF	6.56e+06	1.10e+04	6.0e+02	4.19e+06	7.55e+03	5.6e+02
11	2,3,7,8-TCDD	6.55e+05	1.31e+03	5.0e+02	8.28e+05	1.41e+03	5.9e+02
18	13C-2,3,7,8-TCDF	8.37e+06	4.79e+03	1.7e+03	1.05e+07	2.74e+03	3.8e+03
19	13C-1,2,3,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.26e+06	1.14e+04	7.3e+02
20	13C-2,3,4,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.28e+06	1.14e+04	7.3e+02
24	13C-1,2,3,7,8,9-HxCDF	4.54e+06	9.04e+02	5.0e+03	8.79e+06	3.13e+03	2.8e+03
26	13C-1,2,3,4-TCDF	8.22e+06	4.79e+03	1.7e+03	1.03e+07	2.74e+03	3.7e+03
27	13C-2,3,7,8-TCDD	6.41e+06	8.76e+03	7.3e+02	8.18e+06	3.96e+03	2.1e+03
33	13C-1,2,3,4-TCDD	6.95e+06	8.76e+03	7.9e+02	8.65e+06	3.96e+03	2.2e+03
34	13C-1,2,3,7,8,9-HxCDD	8.12e+06	2.13e+03	3.8e+03	6.38e+06	1.43e+03	4.5e+03
35	37C1-2,3,7,8-TCDD	1.49e+06	1.75e+03	8.5e+02	0.00000000000	20 v 500 5323535	waterest between

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

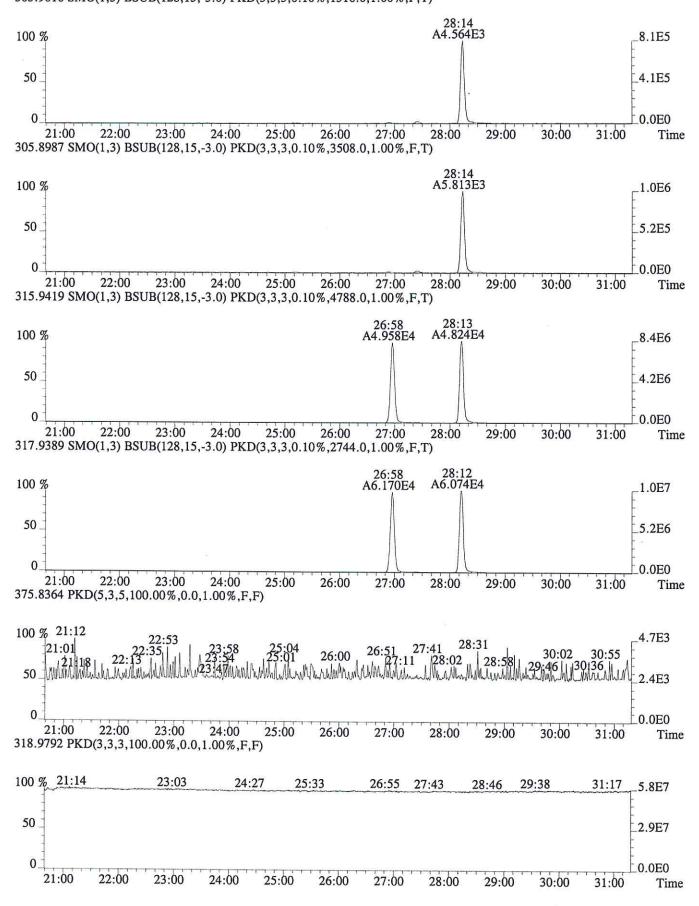
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

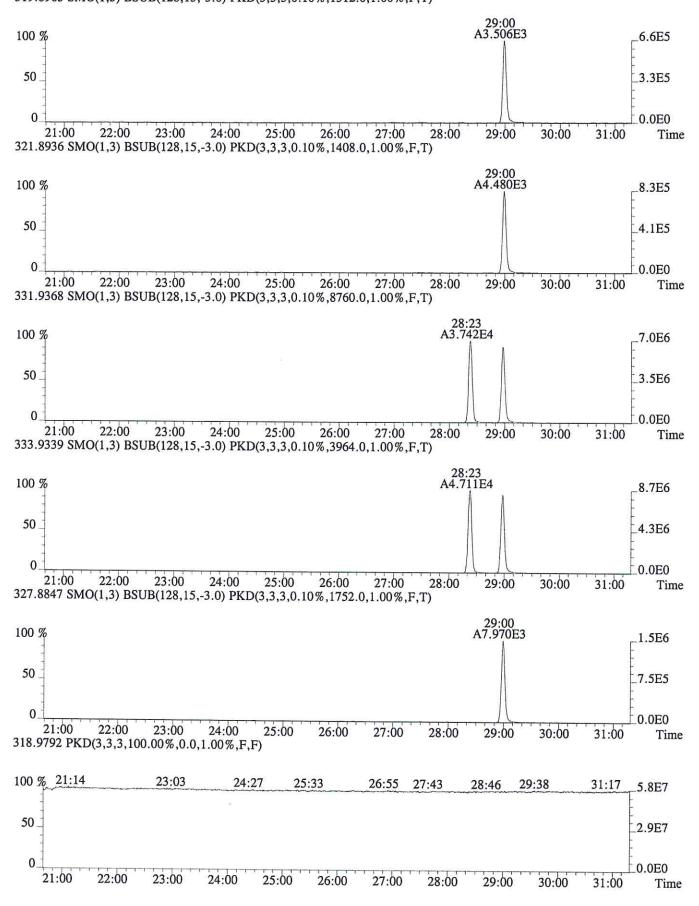
E1600326 320 of 326

File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1316.0,1.00%,F,T)

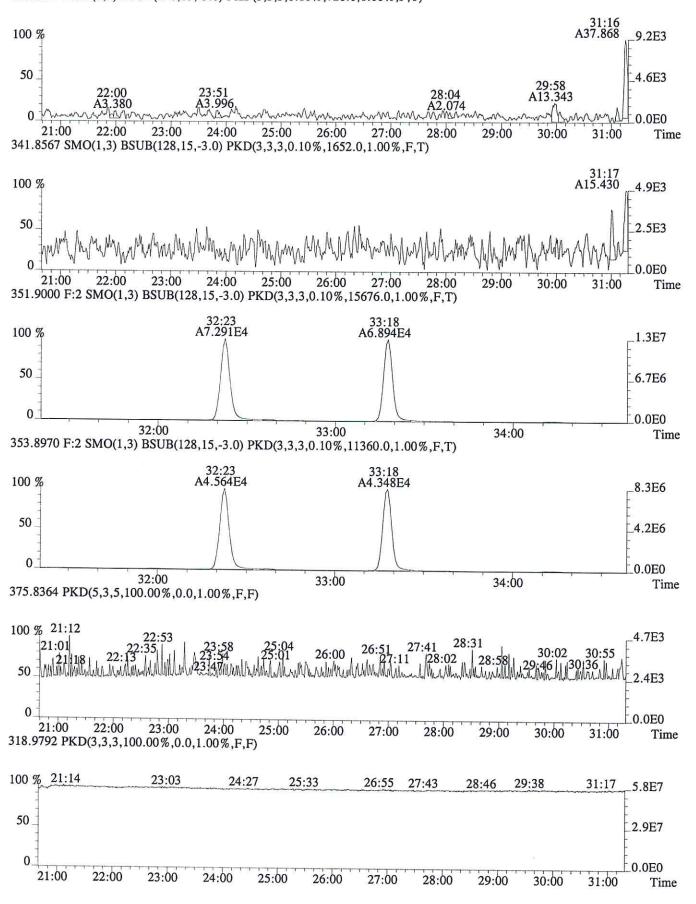


E1600326 321 of 326

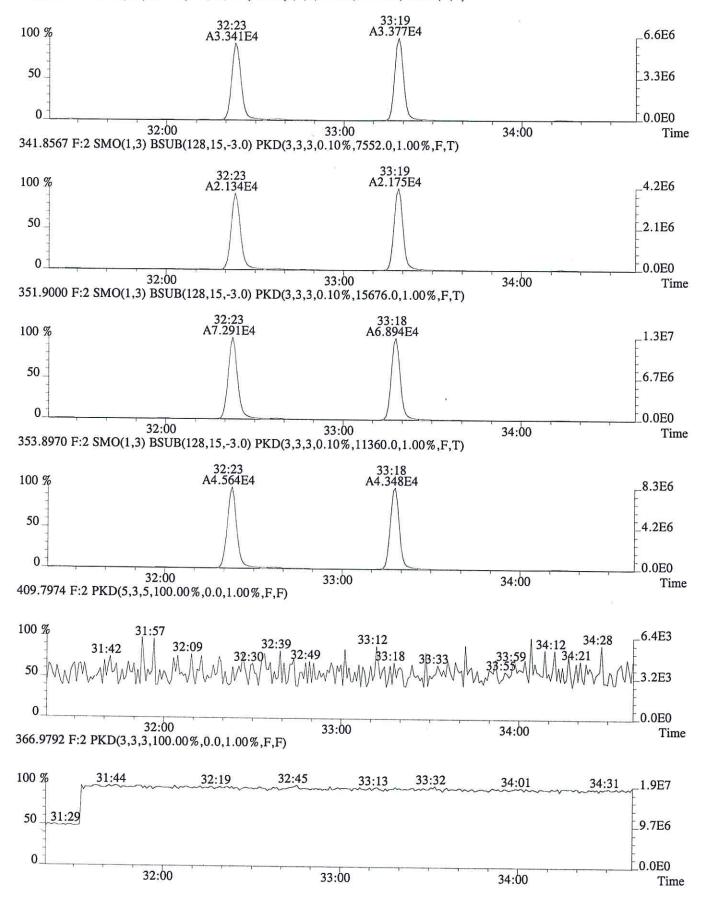
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



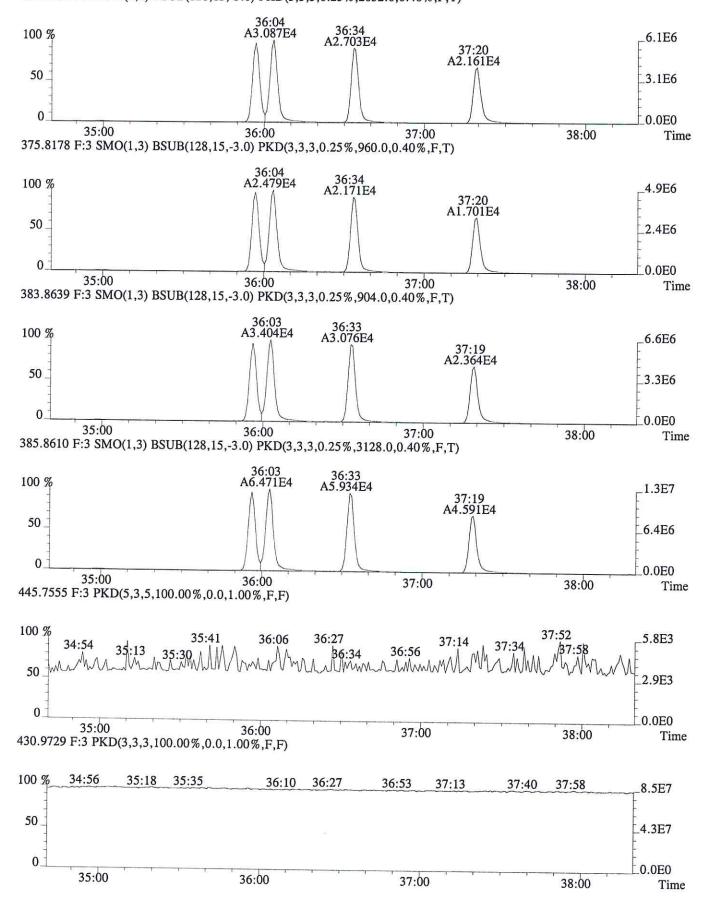
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



File:P603988 #1-298 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10976.0,1.00%,F,T)



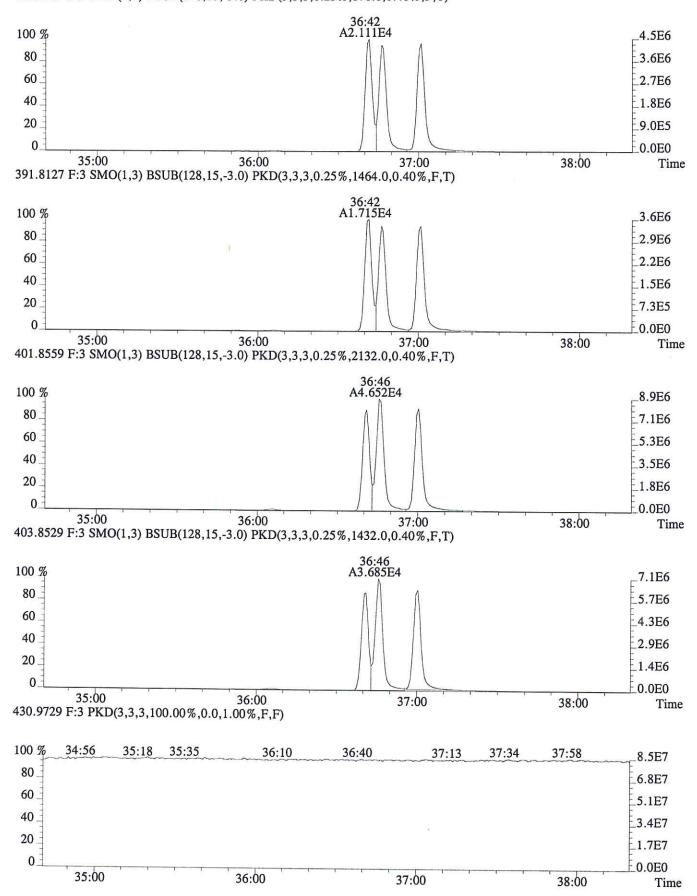
File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2032.0,0.40%,F,T)



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E1600326

File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)





July 11, 2016 Service Request No: E1600326

Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

Laboratory Results for: San Jacinto

Dear Craig,

Enclosed is the amended report for samples submitted to our laboratory on April 8, 2016. For your reference, these analyses have been assigned our service request number E1600326.

The report was amended to remove the spike concentration and percent recovery for 13C-1,2,3,4 TCDF, 13C-2,3,4,7,8 PeCDF and 37Cl-2,3,7,8 TCDD in samples E1600326-004 and 005. In the original report, the spike concentration and percent recovery was reported. Please replace Final_E1600326ak with the report enclosed

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-575-2279.

Respectfully submitted,

Arthi Kodur Project Manager

ALS Environmental

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com.

ADDRESS 10450 Stancliff Road, Suite 210, Houston Texas 77099 USA | PHONE +1 713 266 1599 ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Environmental 🚵

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

E1600326.R1 1 of 327



Service Request No:E1600326

Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

Laboratory Results for: San Jacinto

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory April 08, 2016 For your reference, these analyses have been assigned our service request number **E1600326**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2279. You may also contact me via email at Arthi.Kodur@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Arthi Kodur

Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 PHONE +1 713 266 1599 | FAX +1 713 266 0130 ALS Group USA, Corp. dba ALS Environmental

E1600326.R1 2 of 327



Certificate of Analysis

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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E1600326.R1 3 of 327

ALS ENVIRONMENTAL

Client: Integral Consulting, Incorporated Service Request No.: E1600326

Project: San Jacinto/150557-01.01 Date Received: 4/8/16

Sample Matrix: SPME Fibers (Non-aqueous liquid)

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Thirteen SPME fibers were received for analysis at ALS Environmental – Houston HRMS on 4/8/16.

The samples were received at 17.6° C in good condition and are consistent with the accompanying chain of custody form. The client was contacted and allowed the continuation of analysis. The samples were stored in a refrigerator at 4° C upon receipt at the laboratory.

Custody seals were not present on the cooler upon arrival at the laboratory.

Extraction

The samples in batch EQ1600219 were spiked with the 1613B full list labeled standard. The samples in batch EQ1600222 were spiked with 8290 full list labeled standards. All samples were shaken for 2 minutes with 60 ml of hexane. The solvent was decanted to a new jar and rinsed. Samples were then spiked with M23 Alternate standard which only has 1,2,3,7,8,9 HxCDF.

Data Validation Notes and Discussion

Precision and Accuracy

EQ1600219: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

EQ1600220: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Y flags - Labeled Standards

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Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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Integral Consulting, Incorporated

Project: San Jacinto/150557-01.01

Client:

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	<u>DATE</u>	<u>TIME</u>
E1600326-001	03162016SJGW1	3/16/2016	0900
E1600326-002	04072016SJGW1	4/7/2016	0900
E1600326-003	04072016SJGW2	4/7/2016	0900
E1600326-004	04072016SJGW10	4/7/2016	0930
E1600326-005	04072016SJGW11	4/7/2016	0930
E1600326-006	04072016SJGW12	4/7/2016	0930
E1600326-007	04072016SJGW13	4/7/2016	0930
E1600326-008	04072016SJGW14	4/7/2016	0930
E1600326-009	04072016SJGW15	4/7/2016	0930
E1600326-010	04072016SJGW16	4/7/2016	1000
E1600326-011	04072016SJGW17	4/7/2016	1000
E1600326-012	04072016SJGW18	4/7/2016	1000

Service Request Summary

Folder #: E1600326

Integral Consulting, Incorporated Client Name:

Project Name: San Jacinto Project Number: 150557-01.01

Report To: Craig Hutchings

> Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

USA

Phone Number: 360-705-3534

Cell Number: Fax Number:

E-mail: chutchings@integral-corp.com Project Chemist: Arthi Kodur Originating Lab: HOUSTON Logged By: AKODUR

Date Received: 04/08/16 5/11/2016 Internal Due Date:

QAP: LAB QAP

Qualifier Set: **HRMS** Qualifier Set

> Formset: Lab Standard

Merged?: Ν

Report to MDL?:

P.O. Number:

HOUST ON

EDD: No EDD Specified

Dioxins Furans/1613B Lab Samp No. **Client Samp No** Matrix Collected E1600326-001 03162016SJGW1 NonAq Liquid 03/16/16 0900 IV E1600326-002 04072016SJGW1 NonAq Liquid 04/07/16 0900 I۷ E1600326-003 04072016SJGW2 NonAq Liquid 04/07/16 0900 IV E1600326-004 04072016SJGW10 NonAg Liquid 04/07/16 0930 IV E1600326-005 04072016SJGW11 NonAg Liquid 04/07/16 0930 IV E1600326-006 04072016SJGW12 NonAq Liquid 04/07/16 0930 IV I۷ E1600326-007 04072016SJGW13 NonAq Liquid 04/07/16 0930 E1600326-008 04072016SJGW14 NonAq Liquid 04/07/16 0930 I۷ E1600326-009 04072016SJGW15 NonAq Liquid 04/07/16 0930 ΙV E1600326-010 04072016SJGW16 NonAq Liquid 04/07/16 1000 IV E1600326-011 04/07/16 1000 IV 04072016SJGW17 NonAq Liquid E1600326-012 04072016SJGW18 NonAq Liquid 04/07/16 1000 ΙV

Printed 7/7/2016 5:38:26 PM E1600326.R1

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12 -N/A N/A

Location: E-Disposed, EHRMS-WIC 3B

Pressure Gas:

Service Request Summary

Folder #: E1600326 Project Chemist: Arthi Kodur 12 -N/A N/A

Client Name: Integral Consulting, Incorporated Originating Lab: HOUSTON Location: E-Disposed, EHRMS-WIC 3B

Project Name: San Jacinto Logged By: AKODUR Pressure Gas:

Project Number: 150557-01.01 Date Received: 04/08/16

Report To: Craig Hutchings Internal Due Date: 5/11/2016

Integral Consulting, Inc.

QAP: LAB QAP

Qualifier Set: HRMS Qualifier Set

1205 West Bay Drive NW
Olympia, WA 98502-4670
Formset: Lab Standard

USA Merged?: N

Phone Number: 360-705-3534 Report to MDL?: N

Cell Number: P.O. Number:

Fax Number: EDD: No EDD Specified

E-mail: chutchings@integral-corp.com

Test Comments:

GroupTest/MethodSamplesCommentsSemivoa GCMSDioxins Furans/1613B3E1600326-010-013 on hold (ak 4/20/16)Semivoa GCMSDioxins Furans/1613B9E1600326-001-003: native TCDD/TCDF,23478 PeCDF (ak 4/20/16)do not extract till curve is ready, talk to Arthi before starting anything (ak 5/2/16)

tability and an extra series and the series of the series

Superset Summary

Service Request: E1600326 SuperSet Reference: 16-0000383419 rev 00

Analytical Method: 1613B

Calibrations: 06/25/16

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P603995	P603991	P603993	E1600326-001
P603996	P603991	P603993	E1600326-002
P603997	P603991	P603993	E1600326-003
P603998	P603991	P604007	E1600326-004
P603999	P603991	P604007	E1600326-005
P604000	P603991	P604007	E1600326-006
P604001	P603991	P604007	E1600326-007
P604010	P604006	P604007	E1600326-008
P604011	P604006	P604007	E1600326-009
P603993	P603991	P603993	EQ1600219-01
P604002	P603991	P603993	EQ1600219-02
P604003	P603991	P603993	EQ1600219-03
P604007	P604006	P604007	EQ1600220-01
P604016	P604006	P604007	EQ1600220-02
P604017	P604006	P604007	EQ1600220-03

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Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. The concentration of this analyte should be considered as an estimate.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
- i The MDL/MRL have been elevated due to a matrix interference.

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ALS Laboratory Group

Acronyms

Cal Calibration
Conc CONCentration

Dioxin(s) Polychlorinated dibenzo-p-dioxin(s)

EDL Estimated Detection Limit

EMPC Estimated Maximum Possible Concentration

Flags Data qualifiers

Furan(s) Polychlorinated dibenzofuran(s)

g Grams

ICAL Initial CALibration

ID IDentifier

Ions Masses monitored for the analyte during data acquisition

L Liter (s)

LCS Laboratory Control Sample

DLCS Duplicate Laboratory Control Sample

MB Method Blank

MCL Method Calibration Limit
MDL Method Detection Limit

mL Milliliters

MS Matrix Spiked sample

DMS Duplicate Matrix Spiked sample

NO Number of peaks meeting all identification criteria

PCDD(s) Polychlorinated dibenzo-p-dioxin(s) PCDF(s) Polychlorinated dibenzofuran(s)

ppb Parts per billion
ppm Parts per million
ppq Parts per quadrillion
ppt Parts per trillion
QA Quality Assurance
QC Quality Control

Ratio Ratio of areas from monitored ions for an analyte

% Rec. Percent recovery

RPD Relative Percent Difference RRF Relative Response Factor

RT Retention Time

SDG Sample Delivery Group S/N Signal-to-noise ratio

TEF Toxicity Equivalence Factor
TEQ Toxicity Equivalence Quotient

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State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2017
Arizona Department of Health Services	AZ0793	5/27/2017
Arkansas Department of Environmental Quality	14-038-0	6/16/2017
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2017
Hawaii Department of Health	TX02694	4/30/2017
Illinois Environmental Protection Agency	200057	10/6/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2016
Maine Center for Disease Control and Prevention	2014019	6/5/2018
Maryland Department of the Environment	343	6/30/2017
Minnesota Department of Health	840911	12/31/2016
Nevada Department of Concervation and Natural Resources	TX014112013-2	7/31/2016
New Jersey Department of Environmental Protection	NLC140001	6/30/2017
New Mexico Environment Department	TX02694	4/17/2017
New York Department of Health	11707	4/1/2017
Oklahoma Department of Environmental Quality	2014 124	8/31/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2017
Tennessee Department of Environment and Concervation	04016	6/30/2017
Texas Commision on Environmental Quality	TX104704216-14-5	6/30/2017
United States Department of Agriculture	P330-14-00067	2/21/2017
Utah Department of Health Environmental Laboratory Certification	TX02694	7/31/2016
Washington Department of Health	c819	11/14/2016
West Virginia Department of Environmental Protection	347	8/31/2016

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ALS ENVIRONMENTAL – Houston Data Processing/Form Production and Peer Review Signatures

SR# Unique ID	E1600326	DB-5MSUI SPB-Octyl									
Fire	First Level - Data Processing - to be filled by person generating the forms										
Date:	Date: MAnalyst: Samples: OO -OO T										
011	9										
	V										
S	econd Level - Data Revi	iew – to be filled by person doing peer review									
Date:	Analyst:	Samples:									
07/05/16	LKC	001-007									

PEER REVIEW PAGE2015

ALS ENVIRONMENTAL – Houston Data Processing/Form Production and Peer Review Signatures

SR# Unique ID	E1600321	0		DB-5MSU)	SPB-Octyl
Firs	t Level - Data Proce	ssing - to be fil	led by pei	rson generating	the forms
Date: ()7 ()	7 6 Analyst:) Sa	amples:	008,000	
('	11.0			,	
	V			B-00 - 14-151-	
S	econd Level - Data F	Review – to be fi	illed by pe	erson doing pee	r review
Date:	Analyst:	Sa	amples:		
07/07/16	LKC		008,	009	
				_	

PEER REVIEW PAGE2015



Chain of Custody

ALS Environmental - Houston HRMS 10450 Stancliff Rd, Suite 210, Houston TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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integral Consulting, Inc.



Cooler Receipt Form Project Chemist AK

Client/Project Anchor QEA	Client/Project Anchor QEA Thermometer ID SWO U										
Date/Time Received: 4/8/16 9:0	initia	als: AL Date	:/Time Logg	ed in: 4/8/	16	Initials AL					
	Fed Ex	19.27	ODHL C	Courler (Clier	nt					
Were they intact? O'Yes O'No O'N/A Were they signed and dated? O'Yes O'No O'N/A Were they signed and dated? O'Yes O'No O'N/A											
4. Packing Material: O Inserts Baggies	Bubble Wr	ap Gel Packs	○ Wet Io	e 🔿 Sleev	es C	Other					
5. Foreign or Regulated Soil?	€No	Location of Sa	mpling:								
Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened I	Ву	Temp. Temp °C Blank?					
7760 6344 3470		4/8/16	9:15	AL	1	15.6 17.6 -					
6. Were custody papers properly filled out (ink, signed, dated, etc)? 7. Did all bottles arrive in good condition (not broken, no signs of leakage)? 8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? 9. Were appropriate bottles/containers and volumes received for the requested tests? Yes ONO OYES ONO 10. Did sample labels and tags agree with custody documents? OYES ONO											
Notes, Discrepancies, & Resolutions:		/ 1									
Samples received out of few	PAL	- 4/3/14									

Service request Label:

E1600326 integral Consulting, Inc. San Jacinto



10450 Stancliff Rd., Suite 210 Houston, TX 77099 T: +1 713 266 1599 F: +1 713 266 1599 www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental - Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

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Prep Run#: 262304 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Prep Method: Method Team: Semivoa GCMS/ALOPEZ **Prep Date/Time:** 5/26/16 12:00 PM

#	Lab Code	Client ID	В#	Method /Test	рН	CI	Matrix	Amt. Ext.	Sample Description
1	E1600282-006	04052016SJPW10	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
2	E1600326-001	03162016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
3	E1600326-002	04072016SJGW1	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
4	E1600326-003	04072016SJGW2	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
5	EQ1600219-01	MB		1613B/Dioxins Furans			NonAq Liquid	2.210g	
6	EQ1600219-02	LCS		1613B/Dioxins Furans			NonAq Liquid	2.086g	
7	EQ1600219-03	DLCS		1613B/Dioxins Furans			NonAq Liquid	2.032g	

Spiking Solutions

Name: 23/To	O-9A Alternate Wo	orking Solution		Inventory ID 86467	Logbook Ref: 86467 12/8/2015	CID 100ng/ml	Expires On: 06/05/2016
E1600282-006 EQ1600219-03	20.00μL 20.00μL	E1600326-001	20.00μL	E1600326-002 20.00μL	E1600326-003 20.00μL	EQ1600219-01 20.00μL	EQ1600219-02 20.00μL
Name: 1613	B Matrix Working	Standard		Inventory ID 172305	Logbook Ref: JP 172305 5/10/1	6 2-20 ng/mL	Expires On: 11/06/2016
E1600282-006	100.00μL	E1600326-001	100.00μL	Ε1600326-002 100.00μL	Ε1600326-003 100.00μL	EQ1600219-01 100.00μI	EQ1600219-02 100.00μL

Name:	1613B Labeled Worki	ing Standard	In	ventory ID 17	2717	Logbook Ref:	172717 AL 05/25	/16 2-4ng/mL		Expires On:	11/16/2016	
E1600282-0	06 1,000.00μL	E1600326-001	1,000.00μL	E1600326-002	1,000.00μL	E1600326-003	1,000.00μL	EQ1600219-01	1,000.00μL	EQ1600219-02	2 1,000.00μL	
EQ1600219	-03 1,000.00μL											

Preparation Materials

Carbon, High Purity	CID 05/23/2016 (172622)	Ethyl Acetate 99.9% Minimum	CID 02/25/2016 (88324)	Glass Wool	CID 04/01/201 (171329)
		EtOAc			
Hexanes 95%	CID 05/16/2016 (172432)	Dichloromethane (Methylene	JP 5/11/16 (172330)	Sodium Hydroxide Reagent	05/12/2016 CID (172369)
		Chloride) 99.9% MeCl2		Grade NaOH	
Sodium Sulfate Anhydrous	AL 04/25/16 (171913)	Asian Taste Pure Canola Oil	TW 04/29/16 (172043)	Silica Gel	CID 05/13/2016 (172433)
Reagent Grade Na2SO4					

sulfuric acid AL 03/25/16 (89012)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	5/26/16 12:00	Started:	6/1/16 14:00	Started:	6/3/16 08:00	Started:	6/3/16 12:00
Finished:	5/26/16 14:00	Finished:	6/1/16 15:00	Finished:	6/3/16 09:30	Finished:	6/3/16 12:30
By:	ALOPEZ	By:	ALOPEZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Prep Run#:262304Prep WorkFlow:OrgExtDiox(365)Status:Prepped

Team:Semivoa GCMS/ALOPEZPrep Method:MethodPrep Date/Time:5/26/16 12:00 PM

Comments:

Reviewed By: Date:

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Prep Run#: 262305 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/25/16 02:30 PM

#	Lab Code	Client ID	B#	Method /Test	рН	CI	Matrix	Amt. Ext.	Sample Description
1	E1600326-004	04072016SJGW10	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
2	E1600326-005	04072016SJGW11	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
3	E1600326-006	04072016SJGW12	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
4	E1600326-007	04072016SJGW13	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
5	E1600326-008	04072016SJGW14	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
6	E1600326-009	04072016SJGW15	.01	1613B/Dioxins Furans			NonAq Liquid	1.000g	fibers
7	EQ1600220-01	MB		1613B/Dioxins Furans			NonAq Liquid	2.201g	
8	EQ1600220-02	LCS		1613B/Dioxins Furans			NonAq Liquid	2.007g	
9	EQ1600220-03	DLCS		1613B/Dioxins Furans			NonAq Liquid	2.089g	

Spiking Solutions

Name: 23/TO-9A Alterna	te Working Solution	Inventory ID 86467	Logbook Ref: 86467 12/8/2015 C	CID 100ng/ml	Expires On: 06/05/2016
E1600326-004 20.00μL	E1600326-005 20.00μL	E1600326-006 20.00μL	E1600326-007 20.00μL	E1600326-008 20.00μL	Ε1600326-009 20.00μL
EQ1600220-01 20.00μL	EQ1600220-02 20.00μL	EQ1600220-03 20.00μL			
Name: 1613B Matrix Wor	king Standard	Inventory ID 172305	Logbook Ref: JP 172305 5/10/16	2-20 ng/mL	Expires On: 11/06/2016
EQ1600220-02 100.00μL	EQ1600220-03 100.00μL				
Name: 8290 Internal Wor	king Standard	Inventory ID 172703	Logbook Ref: 172703 AL 05/24/1	16 10-50 ng/mL	Expires On: 11/20/2016
E1600326-004 100.00μL	Ε1600326-005 100.00μL	E1600326-006 100.00μL	E1600326-007 100.00μL	Ε1600326-008 100.00μL	Ε1600326-009 100.00μL
EQ1600220-01 $100.00 \mu L$	ΕQ1600220-02 100.00μL	EQ1600220-03 100.00μL			
Preparation Materials					
Carbon, High Purity	CID 05/23/2016 (172622)	Ethyl Acetate 99.9% Minimum EtOAc	CID 02/25/2016 (88324)	Glass Wool	CID 04/01/201 (171329)
Hexanes 95%	CID 05/16/2016 (172432)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	JP 5/11/16 (172330)	Sodium Hydroxide Reagent Grade NaOH	CID 5/23/2016 (172624)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 04/25/16 (171913)	Asian Taste Pure Canola Oil	TW 04/29/16 (172043)	Silica Gel	CID 05/13/2016 (172433)
sulfuric acid	AL 03/25/16 (89012)	Toluene 99.9% Minimum	AL 05/23/16 (172678)		

Prep Run#: 262305 Prep WorkFlow: OrgExtDiox(365) Status: Prepped

Team: Semivoa GCMS/ALOPEZ Prep Method: Method Prep Date/Time: 5/25/16 02:30 PM

Preparation Steps

Step: Extraction Step: Acid Clean Step: Silica Gel Clean Step: Final Volume Started: 5/25/16 14:30 Started: 5/25/16 16:30 Started: 5/26/16 06:00 Started: 5/26/16 11:00 Finished: 5/26/16 14:52 Finished: 5/25/16 17:00 Finished: 5/26/16 10:30 Finished: 5/26/16 14:50 ALOPEZ ALOPEZ ALOPEZ ALOPEZ By: By: By: By:

Comments Comments Comments Comments

Comments:		
Reviewed By:	Date:	
Chain of Custody		
Relinquished By:	Date:	Extracts Examined
Received By:	Date:	Yes No

Printed 6/17/16 10:46 E1600326.R1



Analytical Results

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 03/16/16 09:00 **Project:** San Jacinto/150557-01.01 **Date Received:** 04/08/16 09:00 **Sample Matrix:** NonAq Liquid

Sample Name: 03162016SJGW1 Units: ng/Kg

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 21:26

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603995 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:03/16/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 03162016SJGW1 Units: ng/Kg

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 21:26

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603995 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:03/16/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 03162016SJGW1 Units:

Data File Name:

Lab Code: E1600326-001 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/25/16 21:26

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

P603995 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Labeled Community	Spike	Conc.	0/ D	0	Control	Ion	DDT
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Ų	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	924.038	46		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	876.710	44		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	867.417	43		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	825.204	41		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1592.206	40		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.784			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:00 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW1 Units: ng/Kg

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

> P603996 Blank File Name: P603993

GC Column: DB-5MSUI

Data File Name: ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW1 Units: ng/Kg

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603996 Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

Printed 7/7/2016 5:38:29 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW1 Units:

Lab Code: E1600326-002 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 22:15

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P603996

 ICAL Date:
 06/25/16

 Blank File Name:
 P603993

 Cal Ver. File Name:
 P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	876.748	44		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	842.951	42		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	884.009	44		24-185	1.58	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	847.501	42		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1799.486	45		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.780			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW2 Units: ng/Kg

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/25/16 23:04

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name:P603997Blank File Name:P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:00 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW2 Units: ng/Kg

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:04

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603997 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:00Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW2 Units:

Lab Code: E1600326-003 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:04

Prep Method:MethodDate Extracted:5/26/16Sample Amount:1.000gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

Data File Name: P603997

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	conc.(pg)	0	/0 RCC	<u> </u>	Limb	Rutio	1111
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	858.906	43		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	821.549	41		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	850.108	43		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	824.903	41		21-178	1.60	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1730.421	43		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.484			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW10 Units: ng/Kg

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:53

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603998 Blank File Name: P604007 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW10 Units: ng/Kg

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 23:53

Prep Method: Method Date Extracted: 5/25/16
Somple Amount: 1,000g

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P603998
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW10 Units:

Lab Code: E1600326-004 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:1613BDate Analyzed:06/25/16 23:53Prep Method:MethodDate Extracted:5/25/16

Sample Amount: 1.000g Instrument Name: E-HRMS-08

Data File Name: P603998 **GC Column:** DB-5MSUI **Blank File Name:** P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		104.060				0.77	0.951
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	346.348	35		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	362.174	36		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	430.225	43		24-185	1.61	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13		77.253			21-178	1.57	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	923.092	46		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		45.447			35-197	NA	1.022

REVISED 3:41 pm, Jul 11, 2016

Printed 7/11/2016 3:09:36 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW11 Units: ng/Kg

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

Sample Amount: 1.000g

Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603999 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) U ND 5.00 1 2,3,7,8-Tetrachlorodibenzofuran (TCDF) ND U 5.00 1 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) 25.0 1 ND U

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW11 Units: ng/Kg

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method: Method **Date Extracted:** 5/25/16

Sample Amount: 1.000g **Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Blank File Name: P604007

Data File Name: P603999 **ICAL Date:** 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW11 Units:

Lab Code: E1600326-005 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 00:42

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P603999
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		89.905				0.79	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	298.741	30		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	305.926	31		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	366.627	37		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13		67.032			21-178	1.62	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	866.877	43		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		39.581			35-197	NA	1.022

REVISED3:41 pm, Jul 11, 2016

Printed 7/11/2016 3:09:36 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW12 Units: ng/Kg

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604000 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30

Sample Matrix: NonAq Liquid Date Received: 04/08/16 09:00

Sample Name: 04072016SJGW12 Units: ng/Kg

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604000

 Blank File Name:
 P604007

 ICAL Date:
 06/25/16

 Cal Ver. File Name:
 P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW12 Units:

Lab Code: E1600326-006 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 01:31

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604000 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	107.635				0.80	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	355.081	36		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	380.932	38		24-169	0.79	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	412.800	41		24-185	1.60	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	72.901			21-178	1.56	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	844.654	42		29-147	0.52	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	44.712			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW13 Units: ng/Kg

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604001 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	21.4	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	23.7	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW13 Units: ng/Kg

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604001 Blank File Name: P604007 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	21.4	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	23.7	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW13 Units:

Lab Code: E1600326-007 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 02:20

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

Data File Name: P604001 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	99.386				0.73	0.951
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	255.982	26		25-164	0.77	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	284.227	28		24-169	0.82	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	380.088	38		24-185	1.55	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	65.915			21-178	1.45	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	722.817	36		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	36.092			35-197	NA	1.022

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units: ng/Kg

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

Sample Amount: 1.000g Instrument Name: E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604010 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	11.3	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	12.6	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units: ng/Kg

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604010
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

Dilution **Analyte Name** Result Q **MRL Factor** Tetrachlorodibenzo-p-dioxins (TCDD), Total U ND 11.3 1 Tetrachlorodibenzofurans (TCDF), Total ND U 12.6 1 Pentachlorodibenzofurans (PeCDF), Total 25.0 1 ND U

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW14 Units:

Lab Code: E1600326-008 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:07

Prep Method:MethodDate Extracted:5/25/16Sample Amount:1.000gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604010
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Labeled Standard Results

Labeld Community	Spike	Conc.	0/ D	0	Control	Ion	DDT
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Ų	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	104.469				0.72	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	307.804	31		25-164	0.74	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	317.820	32		24-169	0.76	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	397.717	40		24-185	1.58	1.140
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	73.359			21-178	1.65	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	748.931	37		29-147	0.49	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	40.364			35-197	NA	1.021

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW15 Units: ng/Kg

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/26/16 14:54

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI

 Data File Name:
 P604011
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	5.00	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	5.00	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	25.0	1	

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Analytical Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Collected:04/07/16 09:30Sample Matrix:NonAq LiquidDate Received:04/08/16 09:00

Sample Name: 04072016SJGW15 Units: ng/Kg

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/26/16 14:54

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:1.000gInstrument Name: E-HRMS-08

P604011 Blank File Name: P604007

 Data File Name:
 P604011
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	5.00	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	5.00	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	25.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326 **Date Collected:** 04/07/16 09:30 **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid **Date Received:** 04/08/16 09:00

Sample Name: 04072016SJGW15 **Units:**

Lab Code: E1600326-009 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 14:54

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 1.000g **Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: Blank File Name: P604007 P604011

06/25/16 **ICAL Date:** Cal Ver. File Name: P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	350	91.065				0.79	0.950
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	318.300	32		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	314.287	31		24-169	0.79	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	365.475	37		24-185	1.58	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	400	63.191			21-178	1.62	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	831.108	42		29-147	0.50	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	338	40.286			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Units: ng/Kg Method Blank

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.210g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603993 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	2.26	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	2.26	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	11.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** Date Received: NA NonAq Liquid

Sample Name: Units: ng/Kg Method Blank

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.210g **Instrument Name:** E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603993 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	2.26	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	2.26	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	11.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** Date Received: NA NonAq Liquid

Sample Name: Units: Method Blank

Lab Code: EQ1600219-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/25/16 19:48

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.210g **Instrument Name:** E-HRMS-08

> P603993 Blank File Name: P603993

GC Column: DB-5MSUI

Data File Name: ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13	3 3 3 3 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	880.428	44		25-164	0.78	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	825.710	41		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	826.023	41		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	787.091	39		21-178	1.59	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1489.602	37		29-147	0.51	1.008
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.000			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Units: ng/Kg Method Blank

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method: Method **Date Extracted:** 5/25/16 **Sample Amount:** 2.201g **Instrument Name:** E-HRMS-08

> GC Column: DB-5MSUI Blank File Name: P604007

Data File Name: P604007 **ICAL Date:** 06/25/16

Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ND	U	2.27	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	ND	U	2.27	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	ND	U	11.4	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units: ng/Kg

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.201gInstrument Name:E-HRMS-08

Data File Name: P604007 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Native Analyte Results

GC Column: DB-5MSUI

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	ND	U	2.27	1	
Tetrachlorodibenzofurans (TCDF), Total	ND	U	2.27	1	
Pentachlorodibenzofurans (PeCDF), Total	ND	U	11.4	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Method Blank Units:

Lab Code: EQ1600220-01 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 11:18

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.201gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604007

Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	274.895	27		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	259.869	26		24-169	0.77	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	264.348	26		24-185	1.59	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	600.493	30		29-147	0.51	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0.705			35-197	NA	1.022

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QA/QC Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Analyzed:06/26/16Sample Matrix:NonAq LiquidDate Extracted:05/26/16

Duplicate Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Units:** ng/Kg

Prep Method:

Method

Basis: As Received **Analysis Lot:** 504016

Lab Control Sample
EQ1600219-02

Duplicate Lab Control Sample
EQ1600219-03

Spike **RPD Spike** % Rec **Analyte Name** Result **Amount** % Rec Result Amount % Rec Limits **RPD** Limit 2,3,4,7,8-Pentachlorodibenzofuran 484 479 101 478 492 97 68-160 50 (PeCDF) 2,3,7,8-Tetrachlorodibenzofuran 86.1 95.9 90 94.1 98.4 9 50 96 75-158 (TCDF) 2,3,7,8-Tetrachlorodibenzo-p-dioxin 82.2 95.9 86 83.1 98.4 84 67-158 1 50 (TCDD)

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted: 5/26/16Sample Amount:2.086gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI
Blank File Name: P603993

 Data File Name:
 P604002
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	82.2		2.40	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	86.1		2.40	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	484		12.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.086gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P603993

Blank File Name: P603993

ICAL Date: 06/25/16 Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	82.2		2.40	1	
Tetrachlorodibenzofurans (TCDF), Total	86.1		2.40	1	
Pentachlorodibenzofurans (PeCDF), Total	931		12.0	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample **Units:**

Lab Code: EQ1600219-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:09

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount:** 2.086g**Instrument Name:** E-HRMS-08 GC Column: DB-5MSUI

Data File Name: P604002 Blank File Name: P603993

Cal Ver. File Name: P603991 **ICAL Date:** 06/25/16

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	939.378	47		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	896.386	45		24-169	0.80	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	905.972	45		24-185	1.60	1.142
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	856.361	43		21-178	1.57	1.174
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1759.063	44		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.286			35-197	NA	1.022

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount: Instrument Name:** E-HRMS-08 2.032g

GC Column: DB-5MSUI

Data File Name: P604003 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	83.1		6.46	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	94.1		6.40	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	478		12.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated **Service Request:** E1600326

Date Collected: NA **Project:** San Jacinto/150557-01.01 **Sample Matrix:** NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method: Method **Date Extracted:** 5/26/16 **Sample Amount: Instrument Name:** E-HRMS-08 2.032g

GC Column: DB-5MSUI

Data File Name: P604003 Blank File Name: P603993 **ICAL Date:** 06/25/16

Cal Ver. File Name: P603991

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	83.1		6.46	1	
Tetrachlorodibenzofurans (TCDF), Total	94.1		6.40	1	
Pentachlorodibenzofurans (PeCDF), Total	919		12.3	1	

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units:

Lab Code: EQ1600219-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 03:58

Prep Method:MethodDate Extracted:5/26/16Sample Amount:2.032gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604003
 Blank File Name:
 P603993

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P603991

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	2000	761.306	38		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	2000	729.732	36		24-169	0.83	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	2000	847.157	42		24-185	1.59	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13	2000	815.813	41		21-178	1.58	1.173
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	4000	1517.396	38		29-147	0.51	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		0			35-197	NA	

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QA/QC Report

Client:Integral Consulting, IncorporatedService Request:E1600326Project:San Jacinto/150557-01.01Date Analyzed:06/26/16Sample Matrix:NonAq LiquidDate Extracted:05/25/16

Duplicate Lab Control Sample Summary

 $Polychlorinated\ Dibenzo dioxins\ and\ Polychlorinated\ Dibenzo furans\ by\ HRGC/HRMS$

Analysis Method: 1613B **Units:** ng/Kg

Prep Method:

Method

Analysis Lot: 504351

As Received

Basis:

Lab Control Sample
EQ1600220-02

Duplicate Lab Control Sample
EQ1600220-03

An aluta Nama	D a smile	Spike	0/ Dag	Dogusl4	Spike	0/ Dag	% Rec	DDD	RPD
Analyte Name	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	500	498	100	482	479	101	68-160	4	50
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	97.3	99.7	98	98.4	95.7	103	75-158	1	50
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	101	99.7	101	95.1	95.7	99	67-158	6	50

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project:San Jacinto/150557-01.01Date Collected:NASample Matrix:NonAq LiquidDate Received:NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:2.007gInstrument Name: E-HRMS-08

GC Column: DB-5MSUI Blank File Name: P604007

 Data File Name:
 P604016
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	101		2.49	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	97.3		2.49	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	500		12.5	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:2.007gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

P604016 Blank File Name: P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Data File Name:

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	101		2.49	1	
Tetrachlorodibenzofurans (TCDF), Total	97.3		2.49	1	
Pentachlorodibenzofurans (PeCDF), Total	982		12.5	1	

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Lab Control Sample Units:

Lab Code: EQ1600220-02 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 18:59

Prep Method:MethodDate Extracted: 5/25/16Sample Amount:2.007gInstrument Name: E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604016
 Blank File Name:
 P604007

 ICAL Date:
 06/25/16
 Cal Ver. File Name:
 P604006

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	0	Control Limits	Ion Ratio	RRT
	Conc.(pg)	round (pg)	70 Nec	Ų	Lillits	Katio	INI
1,2,3,4-Tetrachlorodibenzofuran-C13	1000	0			27.1.1	0.50	1.001
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	307.817	31		25-164	0.79	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	296.673	30		24-169	0.78	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	335.135	34		24-185	1.57	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	772.331	39		29-147	0.52	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.618			35-197	NA	1.022

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

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Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project:San Jacinto/150557-01.01Date Collected:NASample Matrix:NonAq LiquidDate Received:NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B Date Analyzed: 06/26/16 19:48

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.089gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI

Data File Name: P604017 **Blank File Name:** P604007

ICAL Date: 06/25/16 Cal Ver. File Name: P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	95.1		4.52	1	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	98.4		6.79	1	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	482		12.0	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units: ng/Kg

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 19:48

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.089gInstrument Name:E-HRMS-08

GC Column: DB-5MSUI Blank File Name: P604007

 Data File Name:
 P604017

 ICAL Date:
 06/25/16

 Blank File Name:
 P604007

 Cal Ver. File Name:
 P604006

Native Analyte Results

				Dilution	
Analyte Name	Result	Q	MRL	Factor	
Tetrachlorodibenzo-p-dioxins (TCDD), Total	95.1		4.52	1	
Tetrachlorodibenzofurans (TCDF), Total	98.4		6.79	1	
Pentachlorodibenzofurans (PeCDF), Total	937		12.0	1	

Printed 7/7/2016 5:38:32 PM Superset Reference:16-0000383419 rev 00

Analytical Report

Client: Integral Consulting, Incorporated Service Request: E1600326

Project: San Jacinto/150557-01.01 Date Collected: NA
Sample Matrix: NonAq Liquid Date Received: NA

Sample Name: Duplicate Lab Control Sample Units:

Lab Code: EQ1600220-03 Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B **Date Analyzed:** 06/26/16 19:48

Prep Method:MethodDate Extracted:5/25/16Sample Amount:2.089gInstrument Name:E-HRMS-08GC Column:DB-5MSUI

 Data File Name:
 P604017

 ICAL Date:
 06/25/16

 Blank File Name:
 P604006

 Cal Ver. File Name:
 P604006

Labeled Standard Results

	Spike	Conc.			Control	Ion	
Labeled Compounds	Conc.(pg)	Found (pg)	% Rec	Q	Limits	Ratio	RRT
1,2,3,4-Tetrachlorodibenzofuran-C13		0					
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	1000	323.556	32		25-164	0.80	1.021
2,3,7,8-Tetrachlorodibenzofuran-C13	1000	303.363	30		24-169	0.76	0.994
1,2,3,7,8-Pentachlorodibenzofuran-C13	1000	368.296	37		24-185	1.55	1.141
2,3,4,7,8-Pentachlorodibenzofuran-C13		0			21-178		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	2000	742.863	37		29-147	0.50	1.009
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37		1.975			35-197	NA	1.021

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Chromatograms and Selected Ion Monitoring

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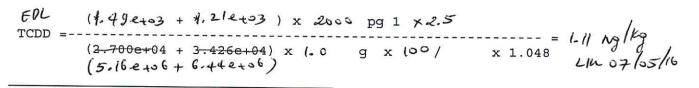
E1600326.R1 73 of 327

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 03162016SJGW1

Run #10 Filename P603995 Samp: 1 Inj: 1 Acquired: 25-JUN-16 21:26:14 Processed: 1-JUL-16 12:44:37 Sample ID: E1600326-001

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	j *	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.572e+04	4.459e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	5.256e+04	3.295e+04	1.60	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.946e+04	3.134e+04	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.342e+04	6.370e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
								*:	
27	IS	13C-2,3,7,8-TCDD	28:58	2.700e+04	3.426e+04	0.79	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	3.167e+04	3.973e+04	0.80	yes	no	j:
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.827e+04	3.144e+04	1.22	yes	no	k=8
35	C/Up	37Cl-2,3,7,8-TCDD	28:59	5.286e+01				no	0.945



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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. 03162016SJGW1

Run #10 Filename P603995 Samp: 1 Inj: 1 Acquired: 25-JUN-16 21:26:14 Processed: 1-JUL-16 12:44:37 LAB. ID: E1600326-001

200100				1 mm 11 mm 4 mm 12 mm			
Name	Signal 1	Noise 1	S/N	Rat.1 Signal	2 Noise	2	S/N Rat.2

		5	1.02.00	-/	.		,
1	2,3,7,8-TCDF	*	1.03e+03	*	*	3.17e+03	*
3	2,3,4,7,8-PeCDF	*	4.68e+02	*	*	1.59e+03	*
11	2,3,7,8-TCDD	*	1.49e+03	*	*	1.21e+03	*
18	13C-2,3,7,8-TCDF	6.34e+06	5.38e+03	1.2e+03	7.87e+06	3.56e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.81e+06	7.67e+03	1.3e+03	6.16e+06	5.92e+03	1.0e+03
20	13C-2,3,4,7,8-PeCDF	9.80e+06	7.67e+03	1.3e+03	6.18e+06	5.92e+03	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	6.64e+06	1.29e+03	5.1e+03	1.26e+07	1.56e+03	8.0e+03
26	13C-1,2,3,4-TCDF	*	5.38e+03	*	*	3.56e+03	*
						,	
27	13C-2,3,7,8-TCDD	5.16e+06	7.11e+03	7.3e+02	6.44e+06	3.90e+03	1.7e+03
33	13C-1,2,3,4-TCDD	5.89e+06	7.11e+03	8.3e+02	7.40e+06	3.90e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	7.72e+06	1.80e+03	4.3e+03	6.16e+06	1.46e+03	4.2e+03
35	37Cl-2,3,7,8-TCDD	1.21e+04	1.92e+03	6.3e+00	,	,	•

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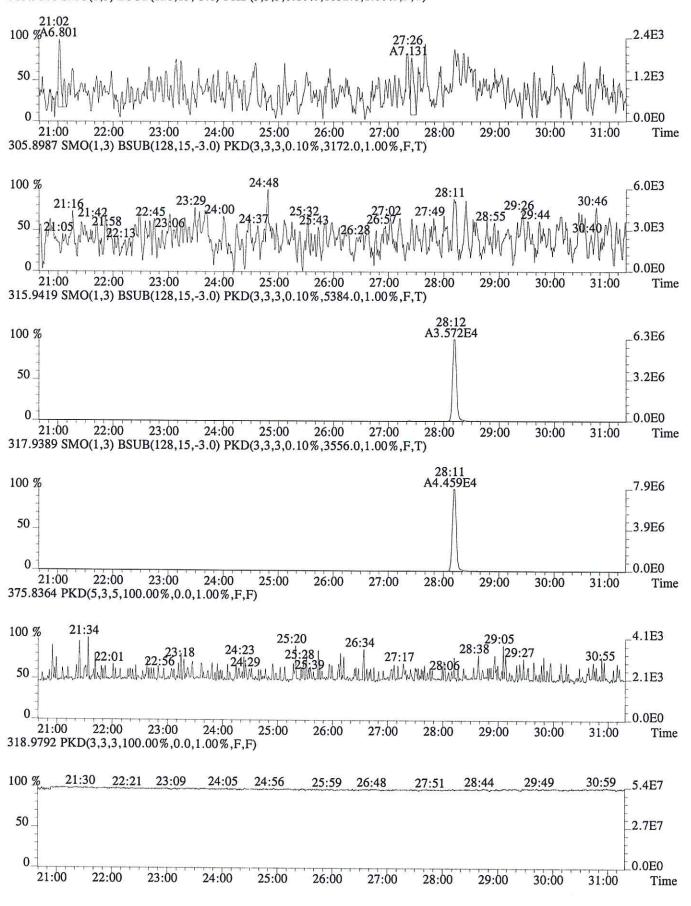
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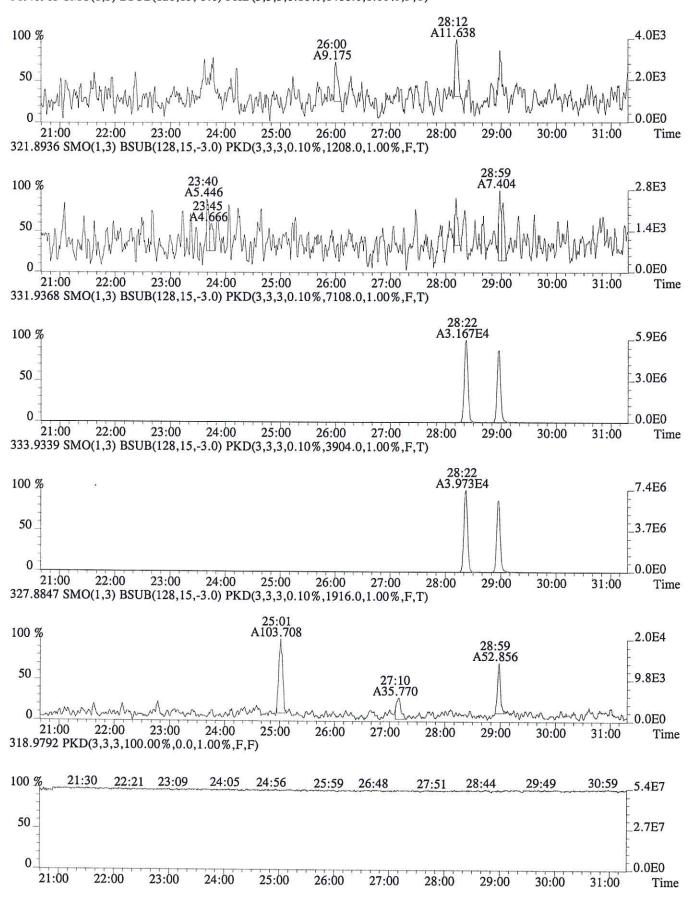
E1600326.R1 75 of 327

File:P603995 #1-756 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)

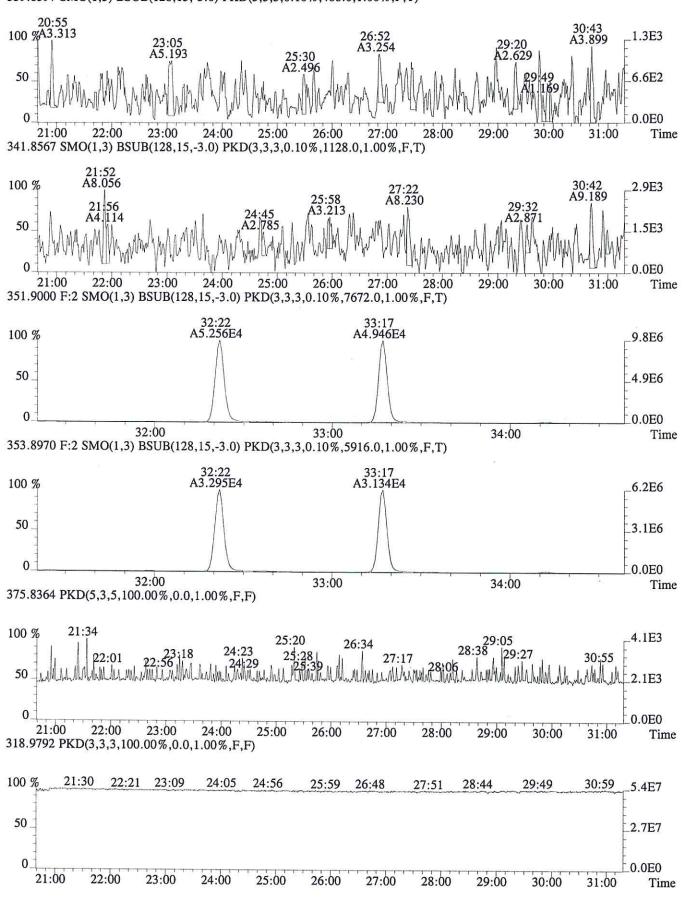


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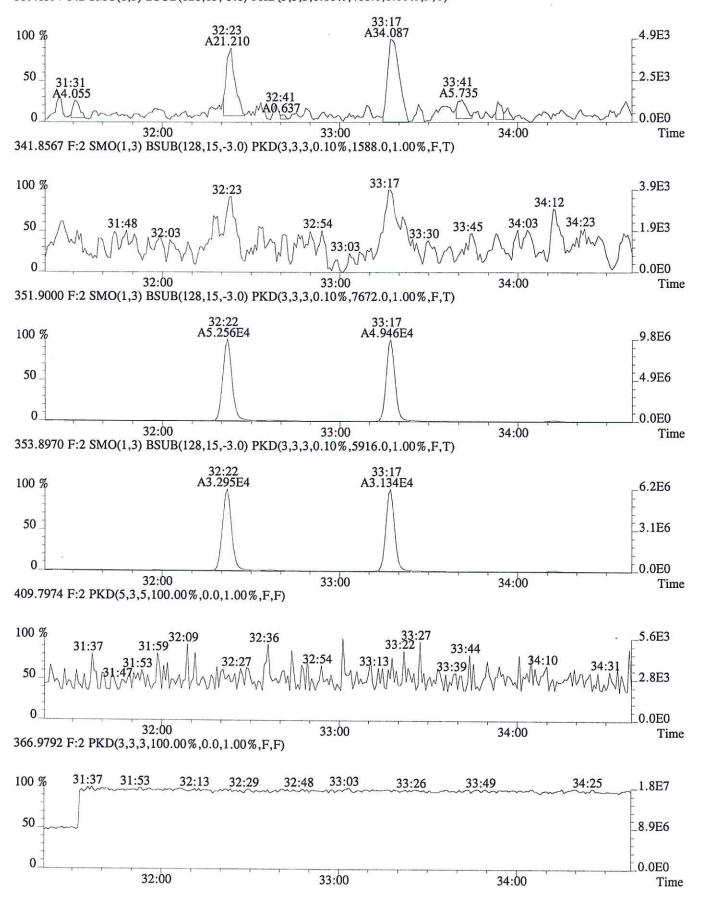
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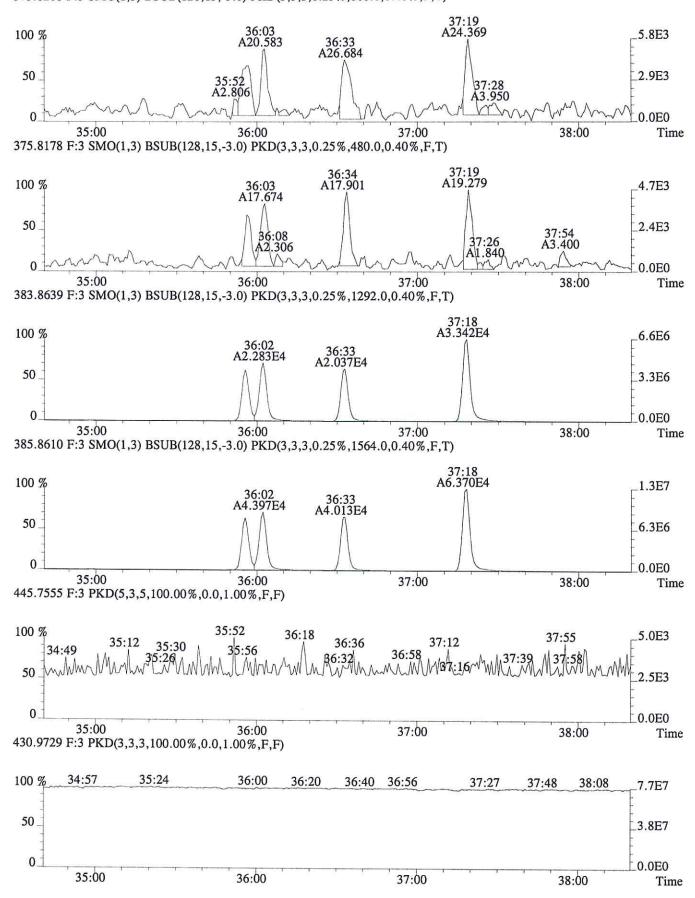
File:P603995 #1-756 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,T)



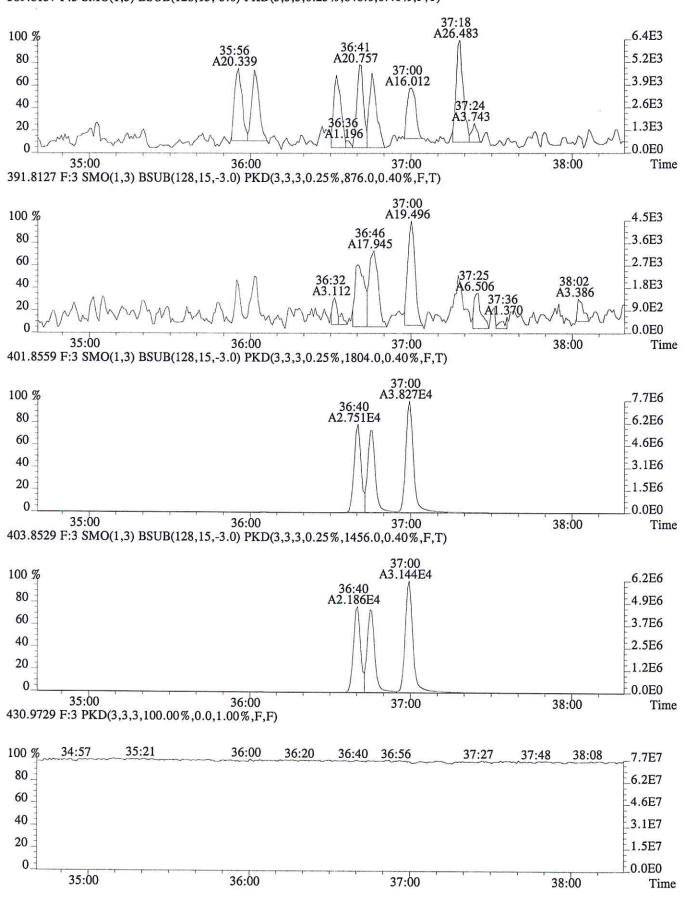
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File:P603995 #1-329 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



File:P603995 #1-329 Acq:25-JUN-2016 21:26:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-001 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)

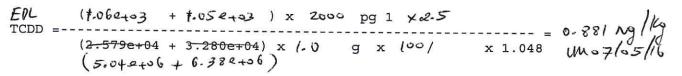


ALS ENVIRONMENTAL Sample Response Summary CLIENT ID.

04072016SJGW1

Run #11 Filename P603996 Samp: 1 Inj: 1 Acquired: 25-JUN-16 22:15:14 Processed: 1-JUL-16 12:44:38 Sample ID: E1600326-002

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
	Unk	2,3,7,8-TCDF		*	*	1	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.449e+04	4.335e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	5.378e+04	3.407e+04	1.58	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	5.126e+04	3.240e+04	1.58	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	3.763e+04	7.189e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
27	IS	13C-2,3,7,8-TCDD	28:58	2.579e+04	3.280e+04	0.79	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	3.190e+04	4.008e+04	0.80	yes	no	Î
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.861e+04	3.095e+04	1.25	yes	no	Ĭ
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	5.302e+01			N=	no	0.945



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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. 04072016SJGW1

Run #11 Filename P603996 Samp: 1 Inj: 1 Acquired: 25-JUN-16 22:15:14 Processed: 1-JUL-16 12:44:38 LAB. ID: E1600326-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	9.24e+02	*	*	2.86e+03	*
3	2,3,4,7,8-PeCDF	*	5.48e+02	*	*	1.51e+03	*
11	2,3,7,8-TCDD	*	1.06e+03	*	*	1.05e+03	*
18	13C-2,3,7,8-TCDF	6.37e+06	4.86e+03	1.3e+03	7.93e+06	3.53e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	1.00e+07	7.46e+03	1.3e+03	6.36e+06	5.76e+03	1.1e+03
20	13C-2,3,4,7,8-PeCDF	1.02e+07	7.46e+03	1.4e+03	6.40e+06	5.76e+03	1.1e+03
24	13C-1,2,3,7,8,9-HxCDF	7.57e+06	9.76e+02	7.8e+03	1.45e+07	1.98e+03	7.3e+03
26	13C-1,2,3,4-TCDF	*	4.86e+03	*	*	3.53e+03	*
27	13C-2,3,7,8-TCDD	5.04e+06	8.21e+03	6.1e+02	6.38e+06	3.72e+03	1.7e+03
33	13C-1,2,3,4-TCDD	6.10e+06	8.21e+03	7.4e+02	7.59e+06	3.72e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	7.81e+06	2.16e+03	3.6e+03	6.30e+06	1.68e+03	3.7e+03
35	37Cl-2,3,7,8-TCDD	1.23e+04	1.88e+03	6.5e+00			40'

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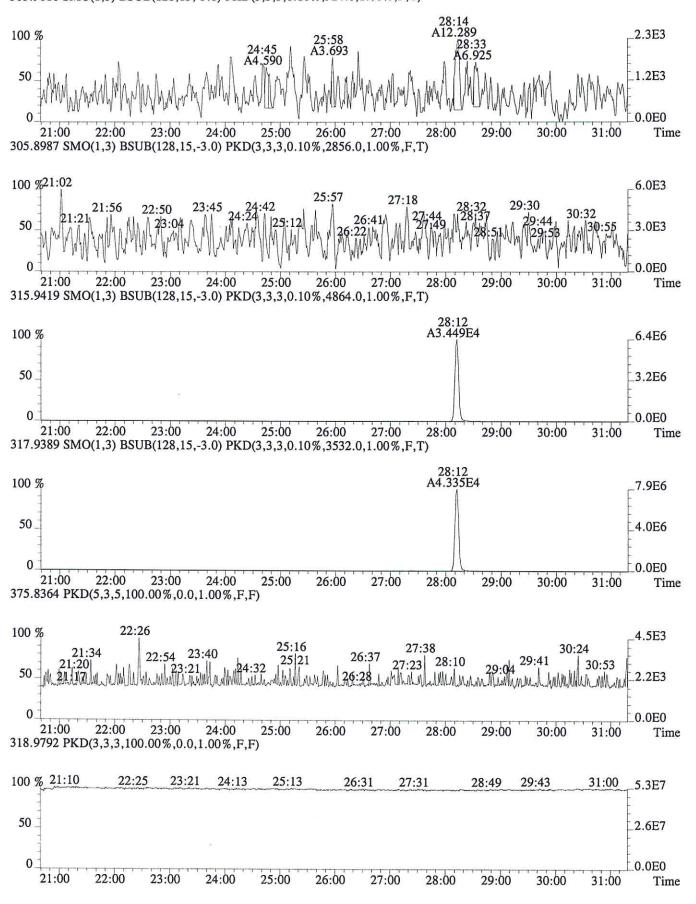
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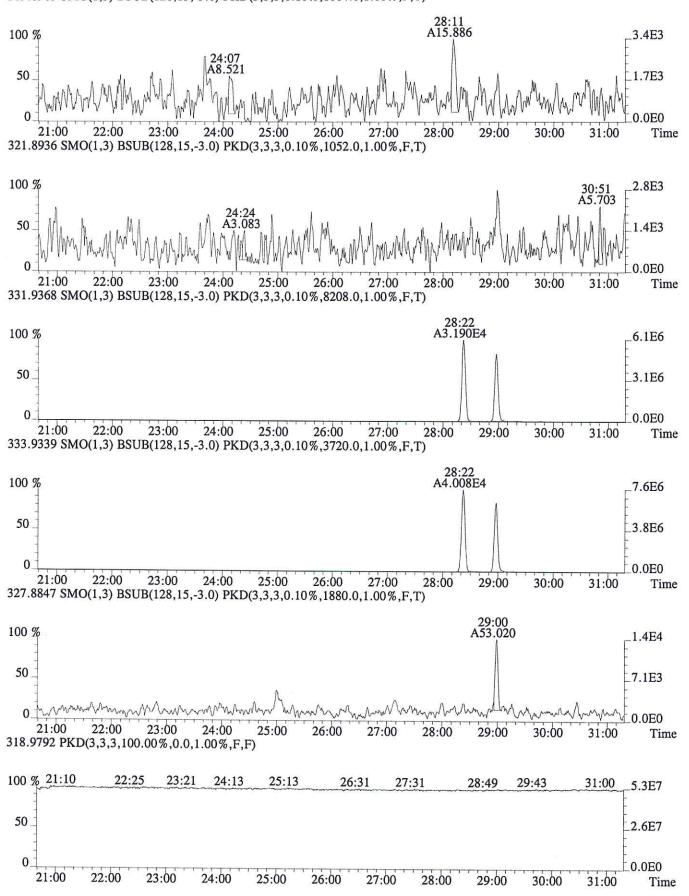
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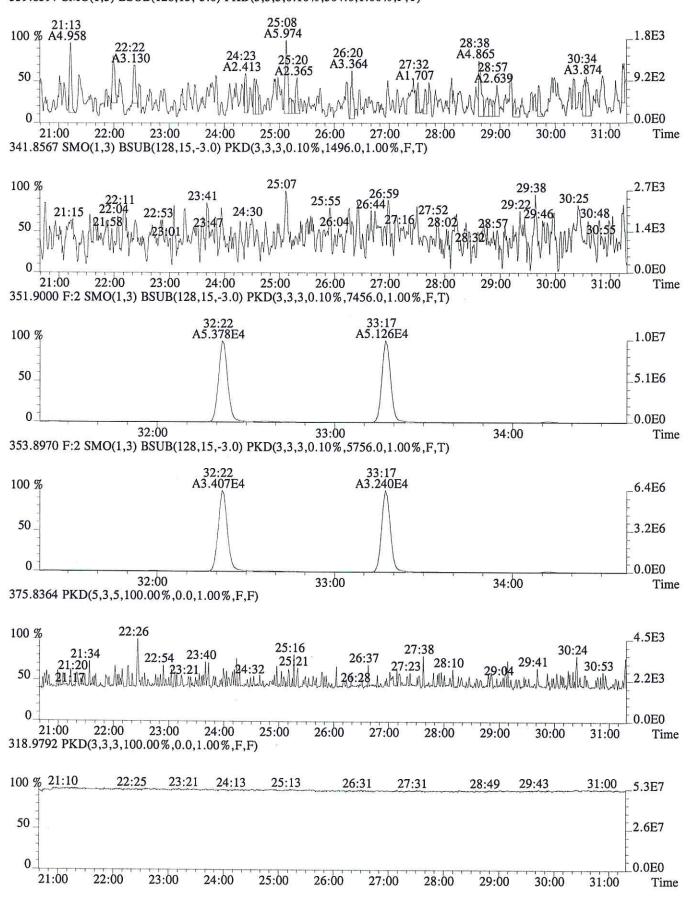
File:P603996 #1-756 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



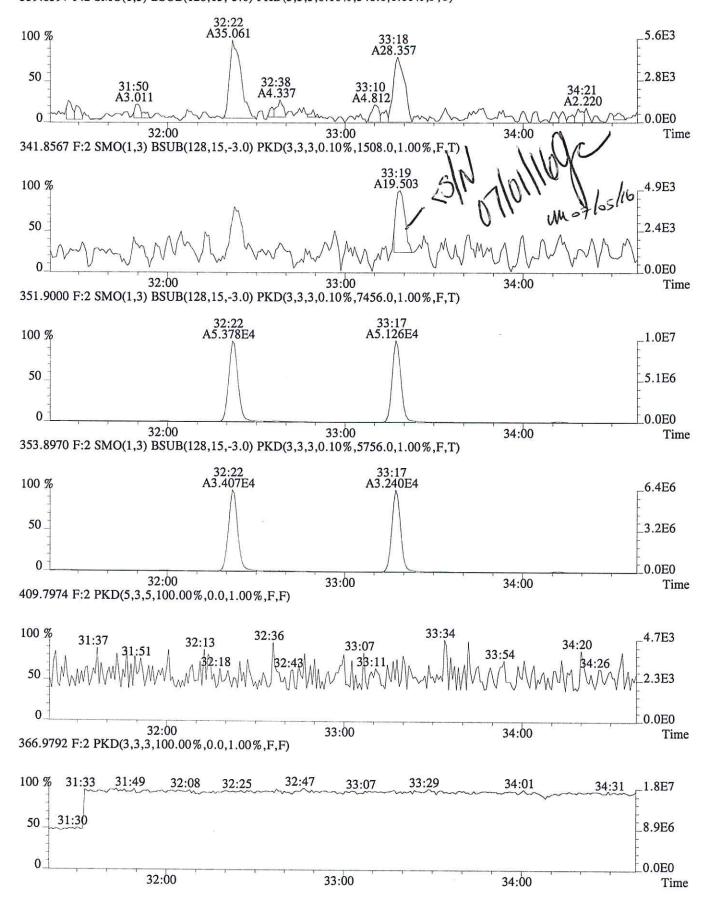
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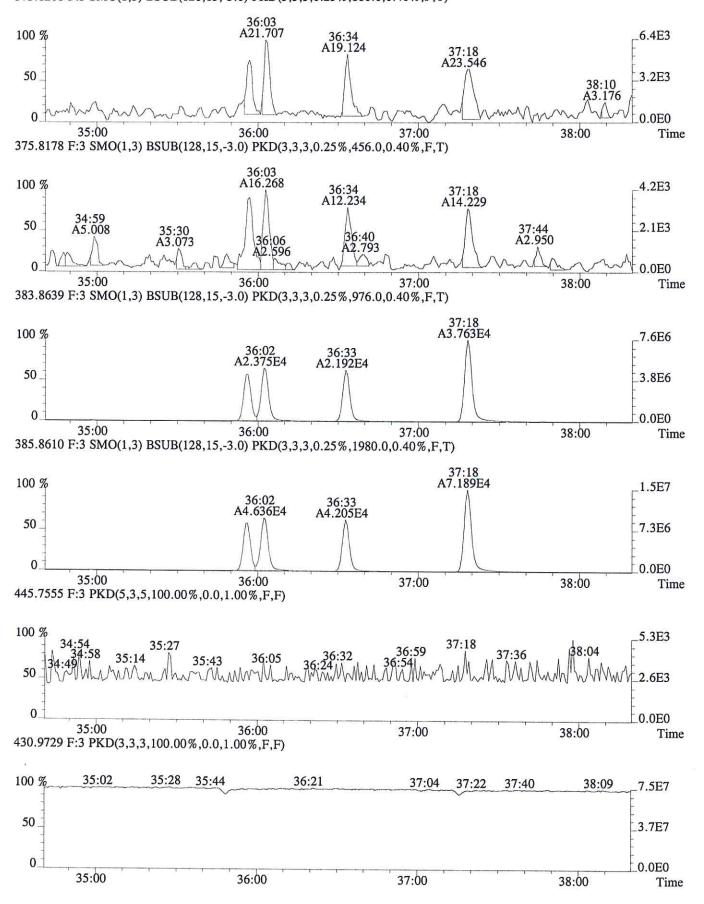
File:P603996 #1-756 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



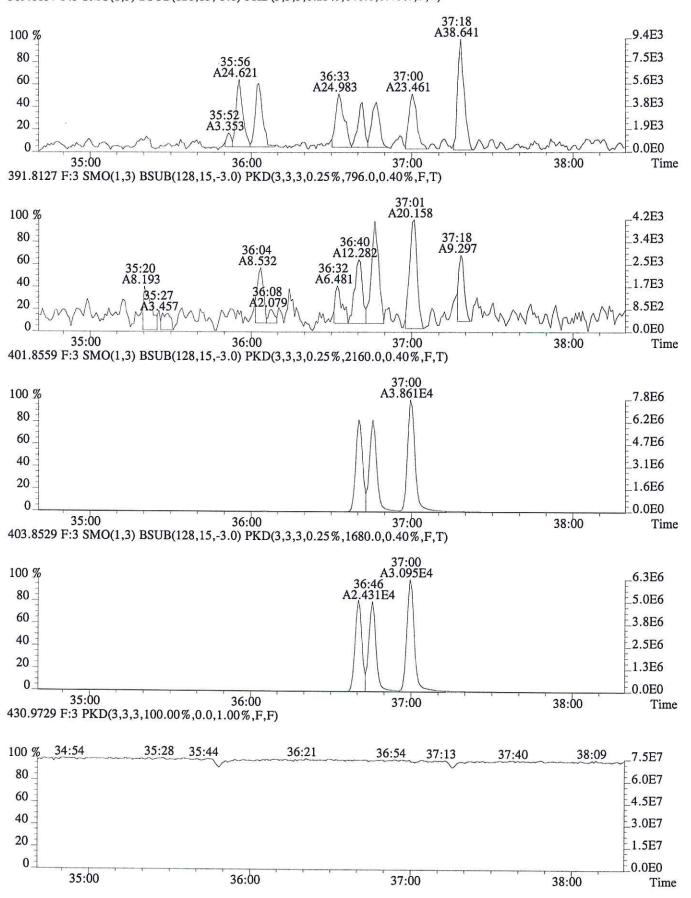
File:P603996 #1-298 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



File:P603996 #1-329 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,T)



File:P603996 #1-329 Acq:25-JUN-2016 22:15:14 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-002 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary CLIENT ID.

04072016SJGW2

Run #12 Filename P603997 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:04:16 Processed: 1-JUL-16 12:44:38 Sample ID: E1600326-003

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk Unk IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF	NotFnd NotFnd 28:12 32:22 33:17 37:18	* * * * * * * * * * * * * * * * * * *	* 4.018e+04 3.103e+04 2.994e+04 6.727e+04 *	0.80 1.60 1.60 0.52	no no yes yes yes yes	no no no no no no no no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875
27 33 34	IS RS/RT RS/RT C/Up	13C-1,2,3,4-TCDF 13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:58 28:22 37:00	2.423e+04 3.052e+04 3.787e+04 9.640e+01	3.062e+04 3.826e+04 2.955e+04	0.79 0.80 1.28	yes	no no no no	1.324 0.929 - - 0.945

(4-7/e+06 + 5.97e+06)

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

04072016SJGW2

Run #12 Filename P603997 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:04:16 Processed: 1-JUL-16 12:44:38 LAB. ID: E1600326-003 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 2.3.7.8-TCDF| * | 9.04e+02| * | * | 2.75e+03| *

Τ.	2,3,7,8-TCDF	*	9.04e+02	*	*	2.75e+03	*
3	2,3,4,7,8-PeCDF	*	7.40e+02	*	*	1.69e+03	*
11	2,3,7,8-TCDD	*	1.30e+03	*	*	1.12e+03	*
18	13C-2,3,7,8-TCDF	5.85e+06	4.06e+03	1.4e+03	7.29e+06	3.42e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	9.24e+06	5.38e+03	1.7e+03	5.80e+06	4.14e+03	1.4e+03
20	13C-2,3,4,7,8-PeCDF	9.55e+06	5.38e+03	1.8e+03	5.99e+06	4.14e+03	1.4e+03
24	13C-1,2,3,7,8,9-HxCDF	7.16e+06	9.24e+02	7.7e+03	1.38e+07	1.39e+03	9.9e+03
26	13C-1,2,3,4-TCDF	*	4.06e+03	*	*	3.42e+03	*
27	13C-2,3,7,8-TCDD	4.71e+06	7.71e+03	6.1e+02	5.97e+06	4.52e+03	1.3e+03
33	13C-1,2,3,4-TCDD	5.80e+06	7.71e+03	7.5e+02	7.27e+06	4.52e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	7.71e+06	2.28e+03	3.4e+03	6.03e+06	1.51e+03	4.0e+03
35	37Cl-2,3,7,8-TCDD	1.99e+04	1.77e+03	1.1e+01			

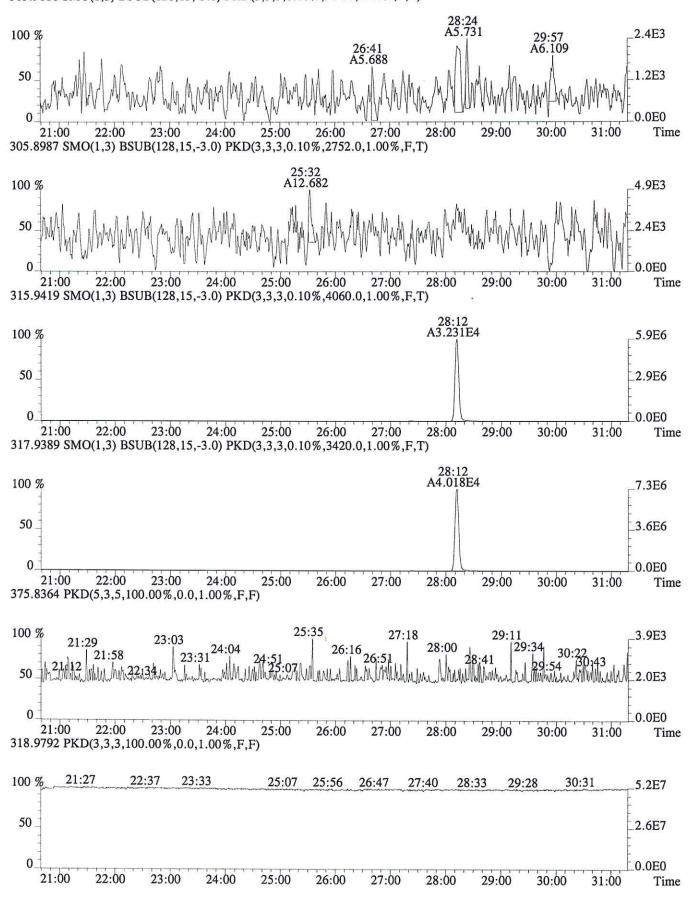
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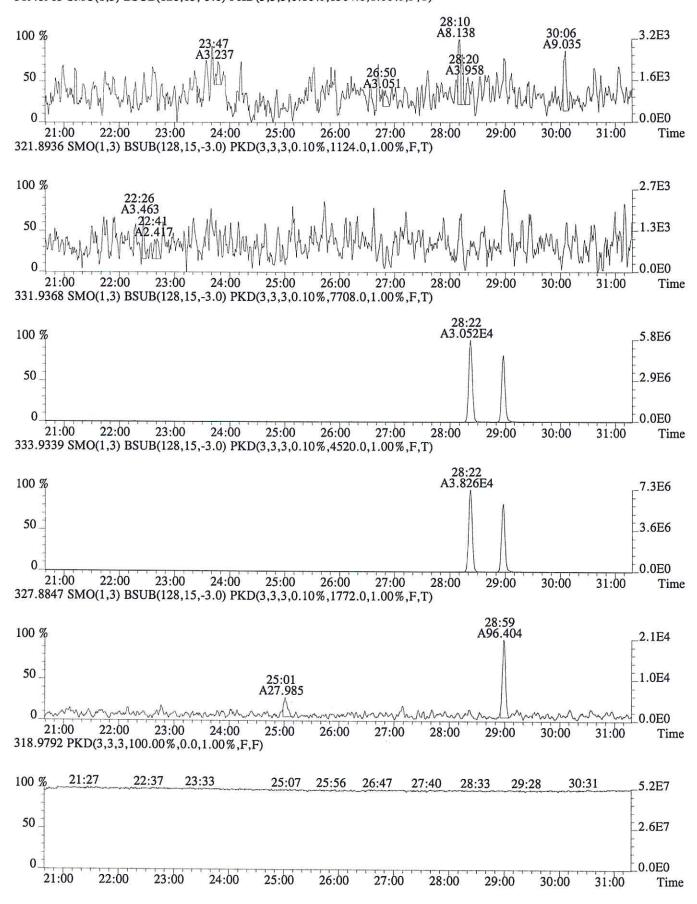
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File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)

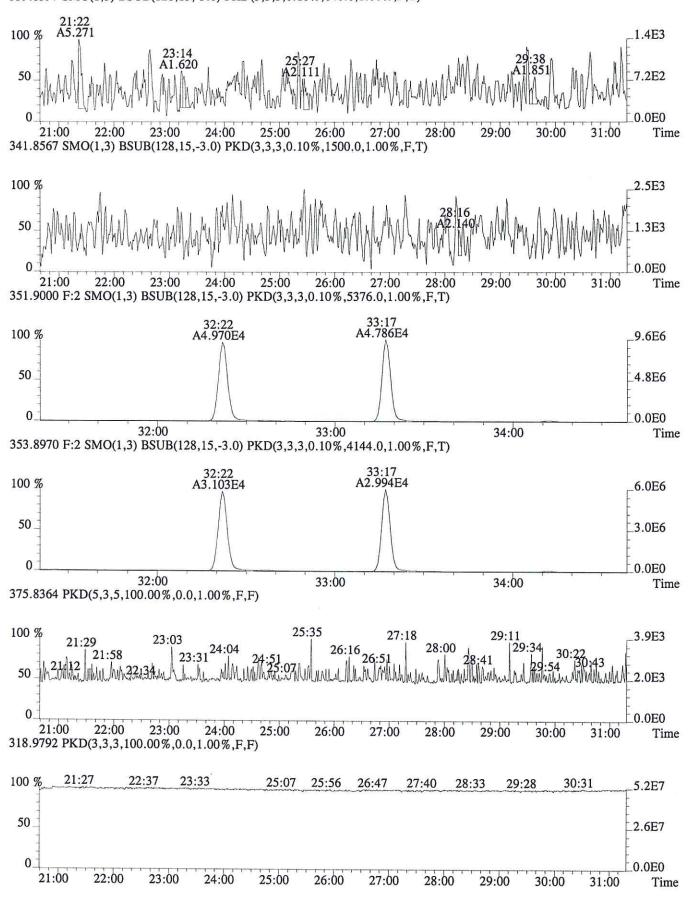


File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)

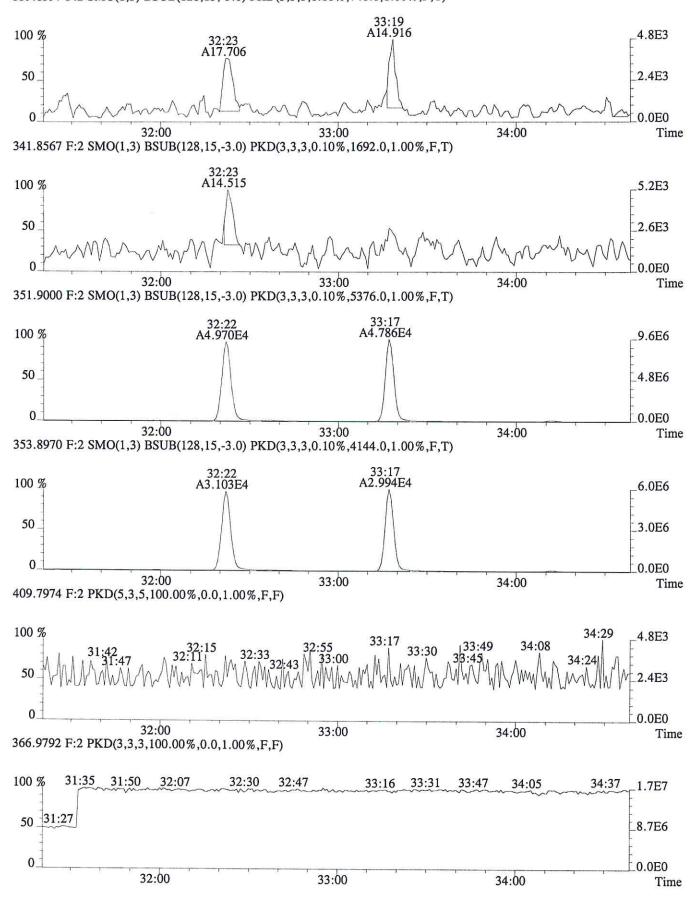


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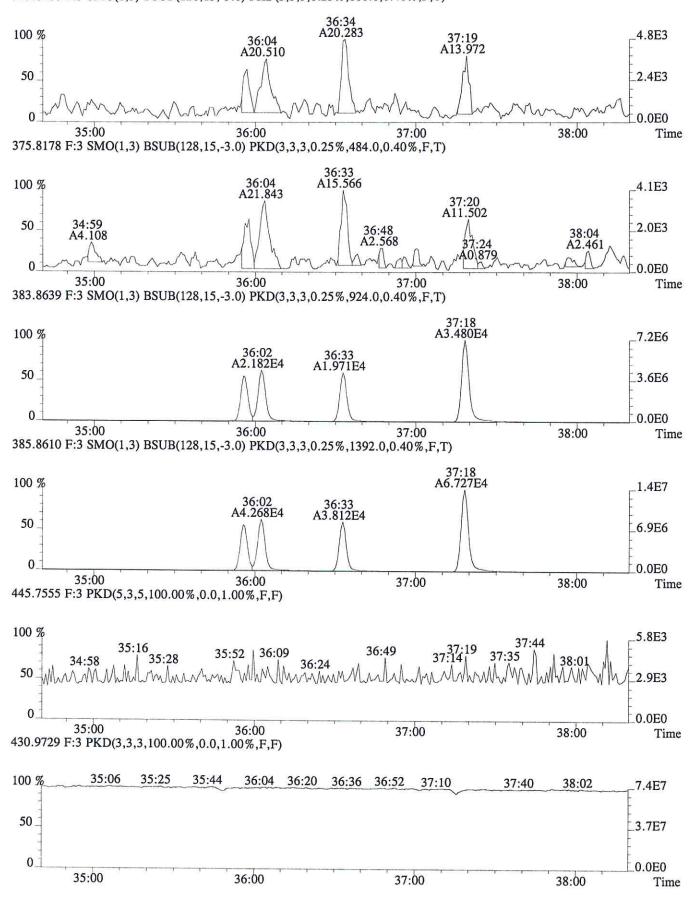
File:P603997 #1-756 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



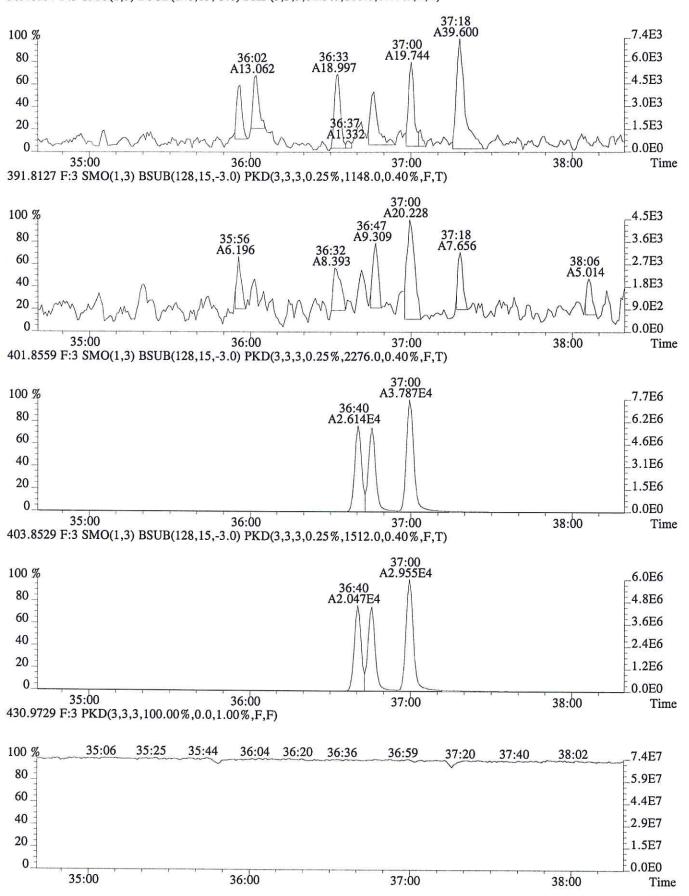
File:P603997 #1-298 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



File:P603997 #1-329 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



File:P603997 #1-329 Acq:25-JUN-2016 23:04:16 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-003 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)

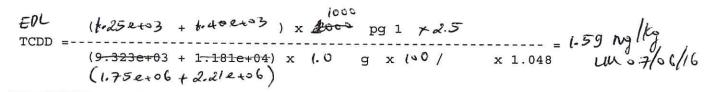


ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 04072016SJGW10

Run #13 Filename P603998 Samp: 1 Inj: 1 Acquired: 25-JUN-16 23:53:17 Processed: 1-JUL-16 13:08:58 Sample ID: E1600326-004

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	1.359e+04	1.695e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	2.408e+04	1.495e+04	1.61	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.256e+03	2.706e+03	1.57	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	1.685e+04	3.265e+04	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:58	3.955e+03	5.107e+03	0.77	yes	yes	1.325
27	IS	13C-2,3,7,8-TCDD	28:58	9.323e+03	1.181e+04	0.79	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	2.924e+04	3.647e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.441e+04	2.686e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	2.822e+03				no	0.945



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E1600326.R1

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 04072016SJGW10

Acquired: 25-JUN-16 23:53:17 Run #13 Filename P603998 Samp: 1 Inj: 1 Processed: 1-JUL-16 13:08:58 LAB. ID: E1600326-004 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF 9.20e+02 3.03e+03 3 2,3,4,7,8-PeCDF 9.12e+02 1.63e+03 2,3,7,8-TCDD| * 11 1.25e+03 1.40e+03 13C-2,3,7,8-TCDF 18 2.42e+06 4.94e+03 4.9e+02 3.02e+06 3.40e+03 8.9e + 0219 13C-1,2,3,7,8-PeCDF 4.49e+06 3.21e+03 2.63e+03 1.4e+03 | 2.78e+06 | 1.1e + 0320 13C-2,3,4,7,8-PeCDF 8.20e+05 3.21e+03 | 2.6e+02 | 2.63e+03 5.18e+05 2.0e + 0224 13C-1,2,3,7,8,9-HxCDF 3.31e+06 | 1.14e+03 | 2.9e+03 | 6.41e+06 1.91e+03 3.4e + 0326 13C-1,2,3,4-TCDF| 6.63e+05| 4.94e+03| 1.3e+02| 8.43e+05| 3.40e+03| 2.5e+02 27 13C-2,3,7,8-TCDD 1.75e+06 | 6.93e+03 | 2.5e+02 2.21e+06 | 2.89e+03 | 7.7e + 0233 13C-1,2,3,4-TCDD 5.39e+06 | 6.93e+03 | 7.8e+02 2.89e+03 6.68e+06 2.3e + 0313C-1,2,3,7,8,9-HxCDD 34 7.10e+06 2.29e+03 3.1e+03 | 5.66e+06 | 1.40e+03 | 4.1e+03

37Cl-2,3,7,8-TCDD| 5.35e+05| 1.36e+03| 3.9e+02

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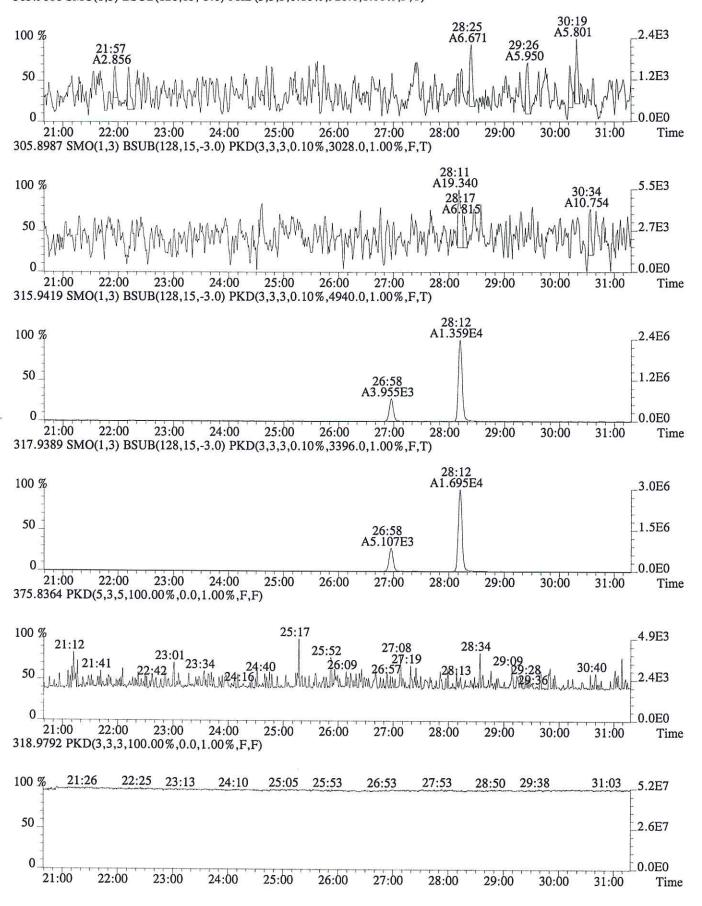
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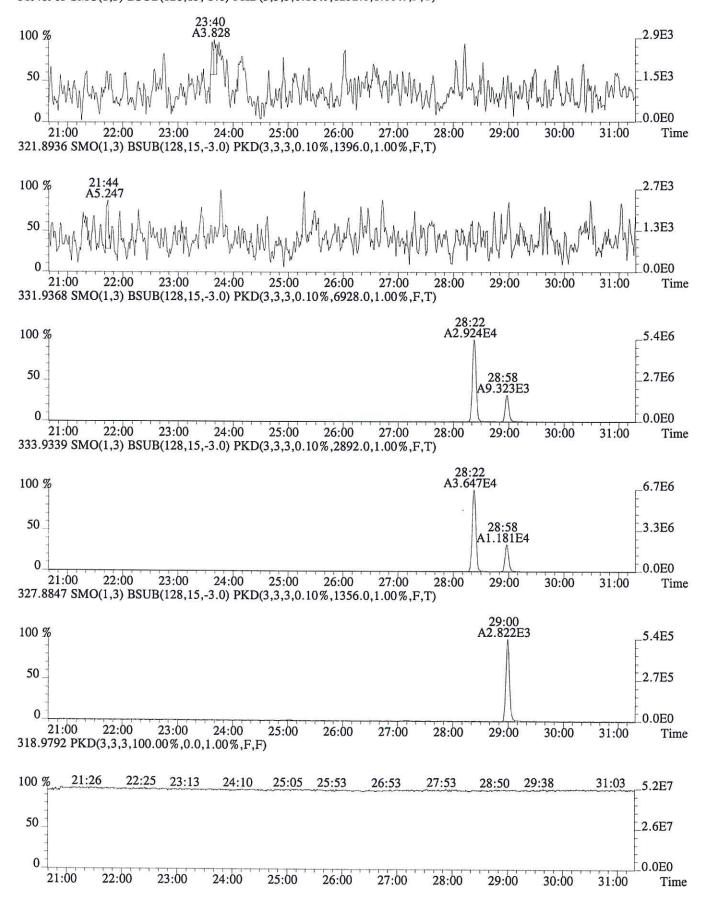
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File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)

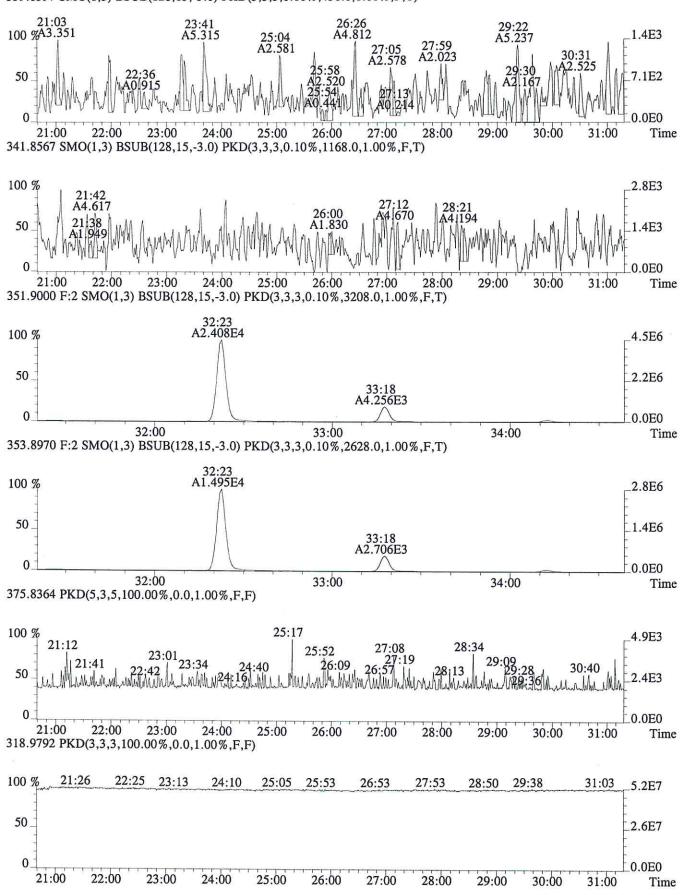


File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,T)

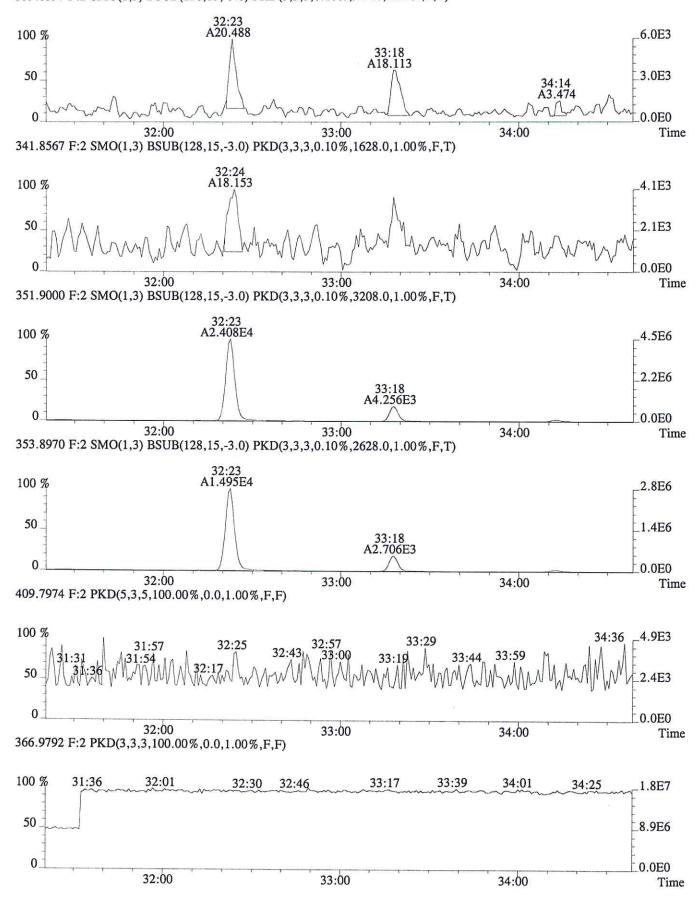


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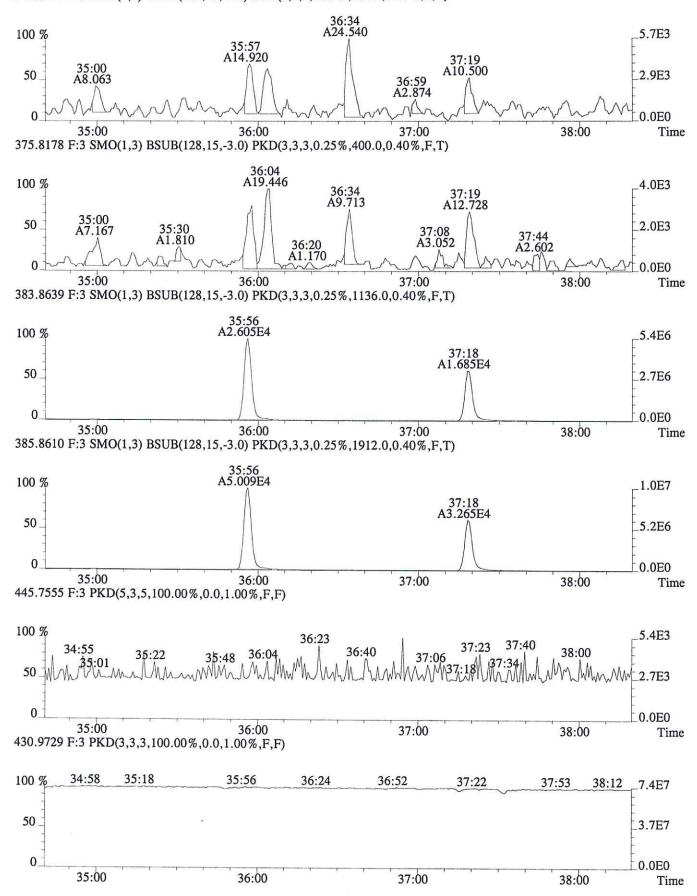
File:P603998 #1-756 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,T)



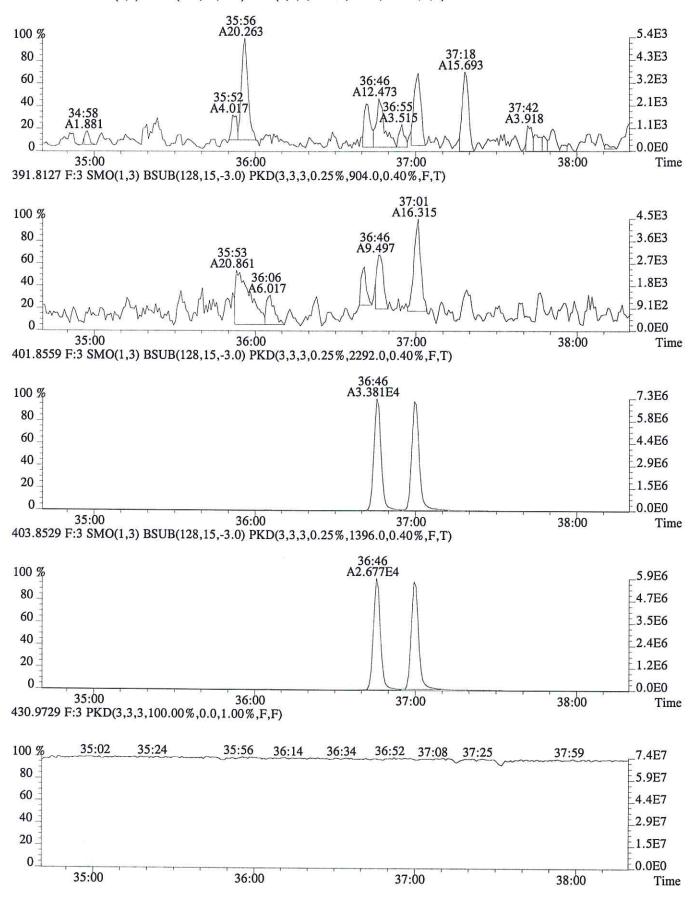
File:P603998 #1-298 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



File:P603998 #1-329 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,T)



File:P603998 #1-329 Acq:25-JUN-2016 23:53:17 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-004 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,T)



CLIENT ID. 04072016SJGW11

Run #14 Filename P603999 Samp: 1 Inj: 1 Acquired: 26-JUN-16 00:42:18 Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-005

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
3 11 18		2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF	NotFnd NotFnd 28:12 32:22 33:17	* * 1.162e+04 2.080e+04 3.797e+03 1.588e+04	* 1.459e+04 1.302e+04 2.344e+03 3.078e+04	*	yes yes	no no no no no no	0.957 0.929 1.048 1.283 1.381 1.371
26	IS	13C-1,2,3,4-TCDF	26:57	3.516e+03	4.443e+03	0.79		yes	1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:22 37:00	8.145e+03 2.967e+04 3.444e+04 2.498e+03	1.038e+04 3.712e+04 2.709e+04	0.78 0.80 1.27	yes	no no no no	0.929 - - 0.945

FOL =	(t.02e+03	+	t. 50 e+03)	x	1000	p	g :	L	×2.5		1.707 Ng/Kg
	(8 .145e+ 03 (1.55e+06	++	1.038e+04)	:	x	1-0	g	x	l×	0 /	x 1.048	un 07/06/16

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CLIENT ID. 04072016SJGW11

Run #14 Filename P603999 Samp: 1 Inj: 1 Acquired: 26-JUN-16 00:42:18

Processed: 1-JUL-16 13:08:59 LAB. ID: E1600326-005

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	1.06e+03	*	*	3.26e+03	*
3	2,3,4,7,8-PeCDF	*	7.08e+02	*	*	1.71e+03	*
11	2,3,7,8-TCDD	*	1.02e+03	*	*	1.50e+03	*
18	13C-2,3,7,8-TCDF	2.08e+06	4.30e+03	4.9e+02	2.61e+06	2.58e+03	1.0e+03
19	13C-1,2,3,7,8-PeCDF	3.85e+06	3.39e+03	1.1e+03	2.42e+06	1.28e+03	1.9e+03
20	13C-2,3,4,7,8-PeCDF	7.09e+05	3.39e+03	2.1e+02	4.57e+05	1.28e+03	3.6e+02
24	13C-1,2,3,7,8,9-HxCDF	3.15e+06	8.80e+02	3.6e+03	6.03e+06	2.00e+03	3.0e+03
26	13C-1,2,3,4-TCDF	5.92e+05	4.30e+03	1.4e+02	7.52e+05	2.58e+03	2.9e+02
27	13C-2,3,7,8-TCDD	1.55e+06	7.41e+03	2.1e+02	1.97e+06	3.82e+03	5.2e+02
33	13C-1,2,3,4-TCDD	5.65e+06	7.41e+03	7.6e+02	7.02e+06	3.82e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	7.28e+06	1.40e+03	5.2e+03	5.70e+06	1.37e+03	4.2e+03
35	37Cl-2,3,7,8-TCDD	4.57e+05	2.10e+03	2.2e+02	. (2)		

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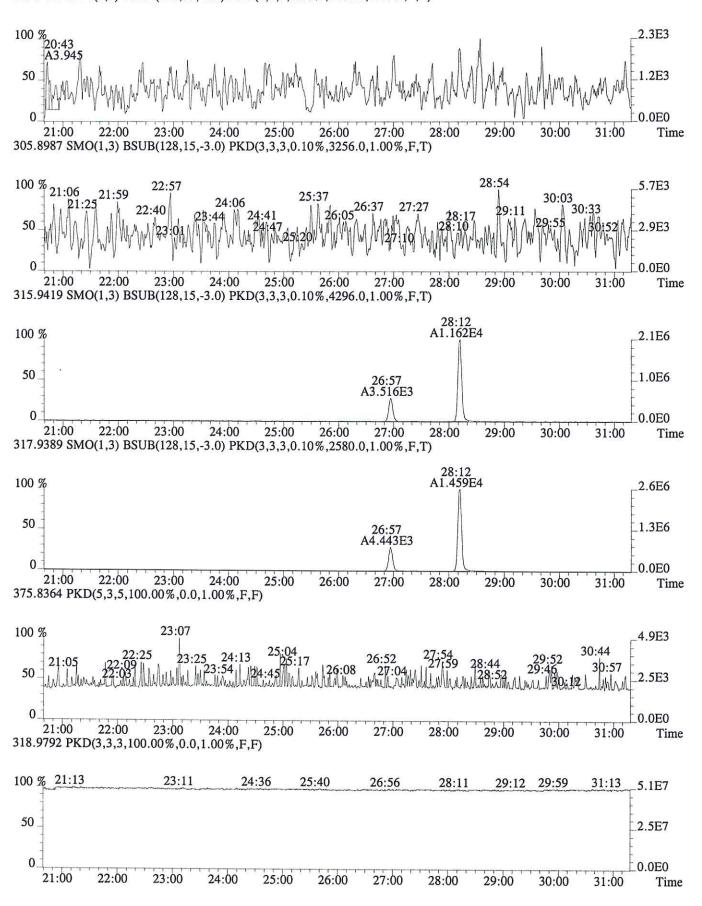
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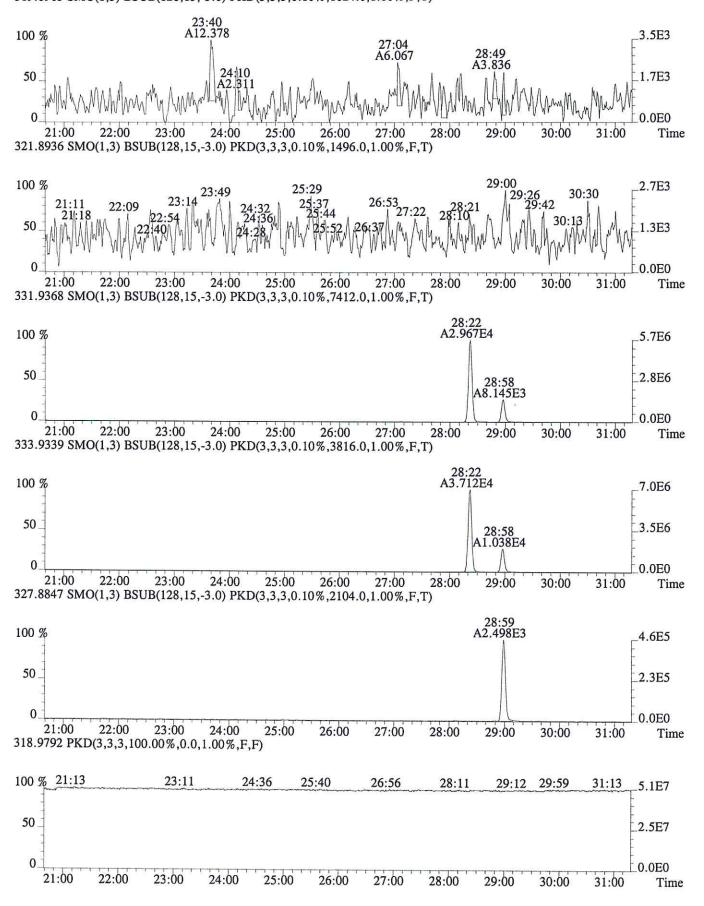
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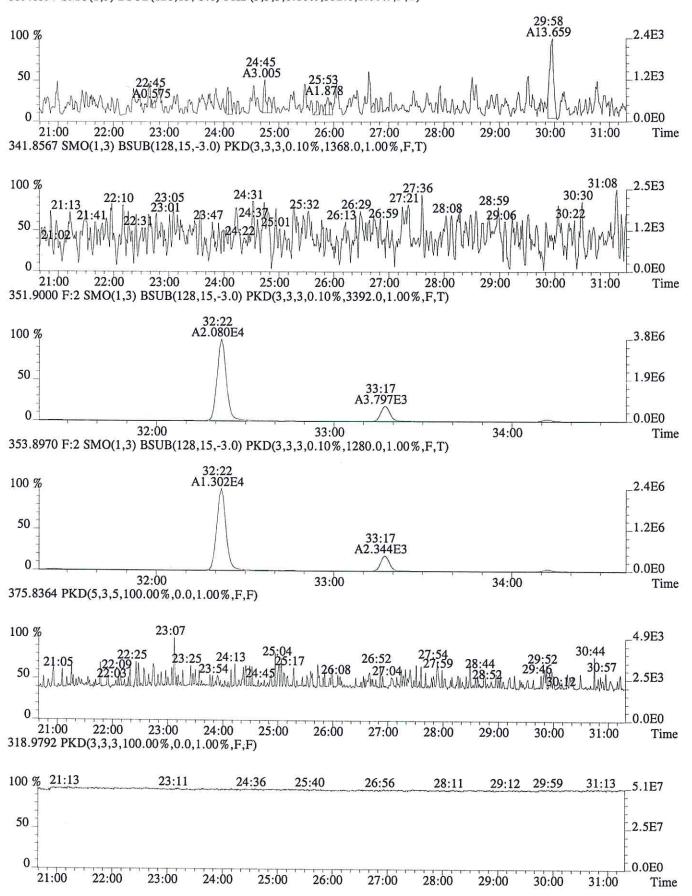
File:P603999 #1-756 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



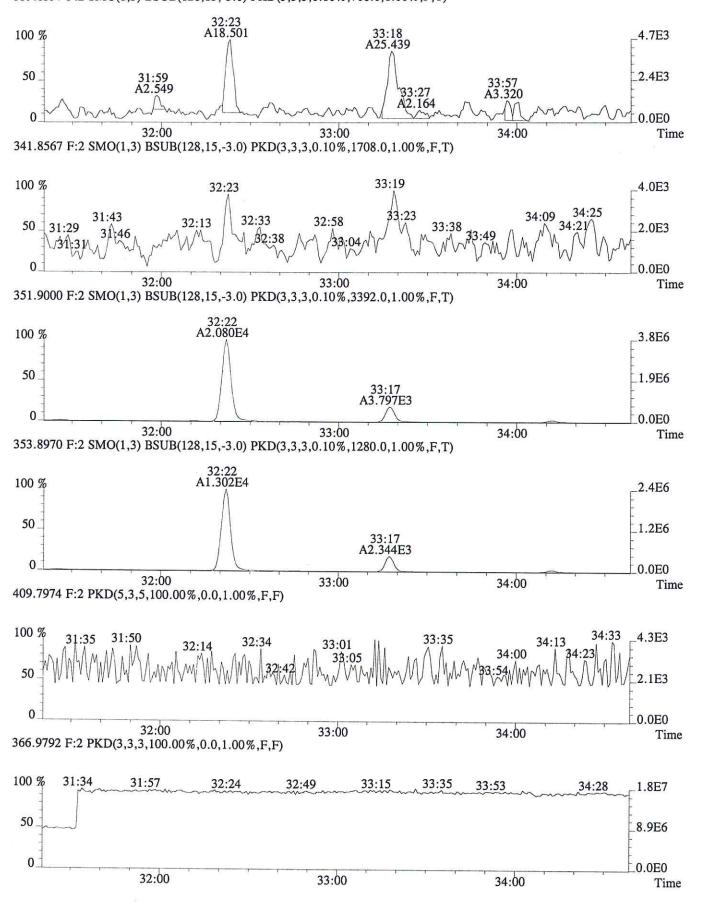
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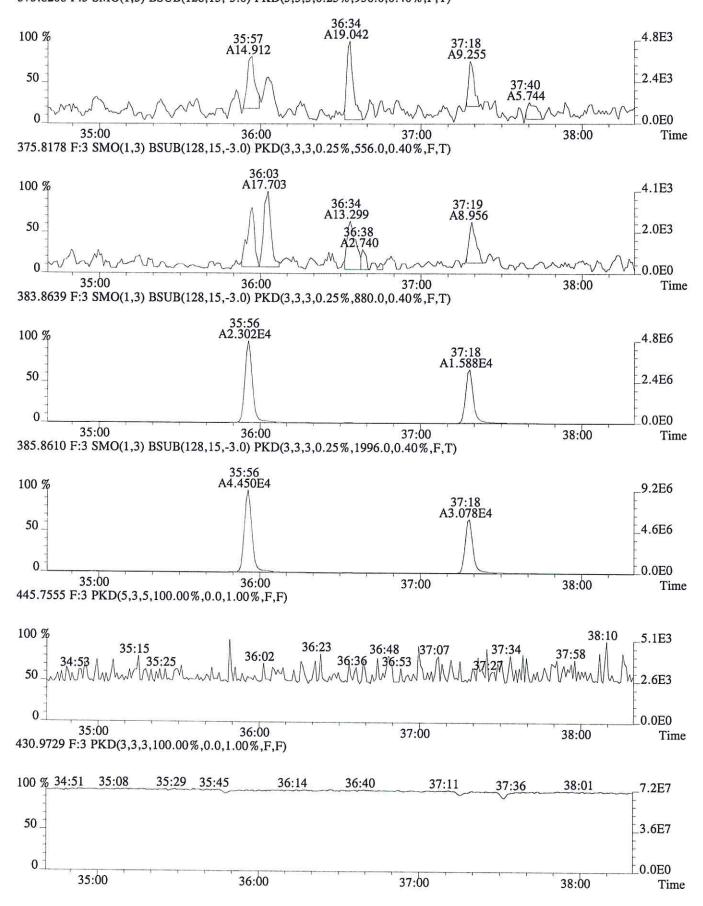
File:P603999 #1-756 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



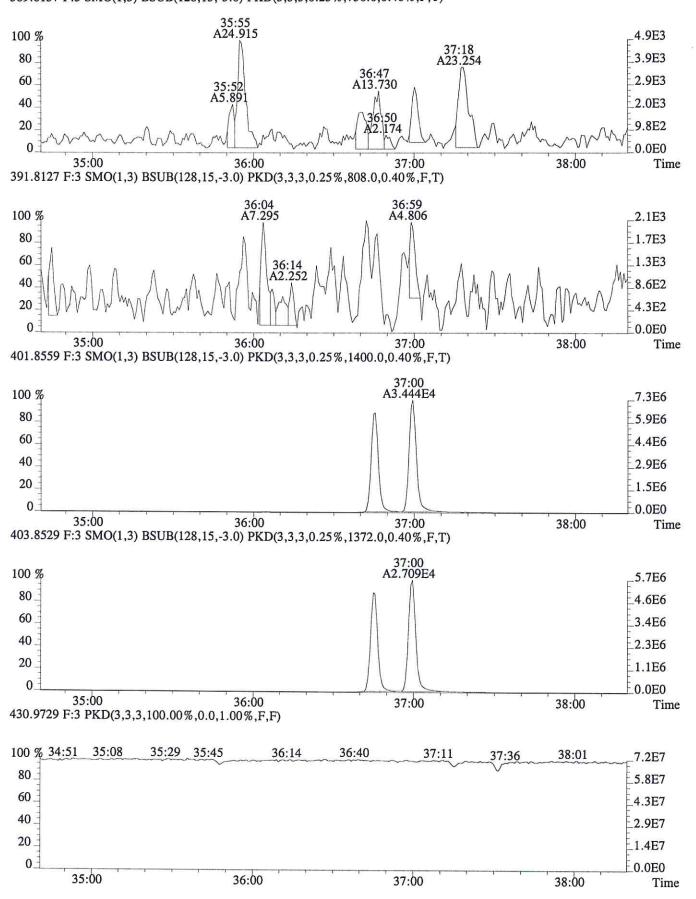
File:P603999 #1-298 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



File:P603999 #1-329 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



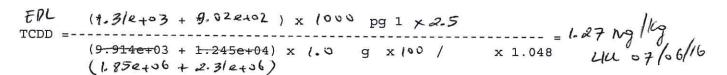
File:P603999 #1-329 Acq:26-JUN-2016 00:42:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-005 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



CLIENT ID. 04072016SJGW12

Run #15 Filename P604000 Samp: 1 Inj: 1 Acquired: 26-JUN-16 01:31:21 Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-006

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18	IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	NotFnd NotFnd 28:12 32:22 33:17 37:18	* * 1.464e+04 2.381e+04 4.134e+03 1.612e+04 4.304e+03	* 1.850e+04 1.485e+04 2.647e+03 3.101e+04 5.371e+03	* no * no * no 0.79 yes 1.60 yes 1.56 yes 0.52 yes 0.80 yes	no no no no no no no no yes	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:22 37:00	9.914e+03 2.999e+04 3.547e+04 2.865e+03	1.245e+04 3.783e+04 2.829e+04	0.80 yes 0.79 yes 1.25 yes	no no no no	0.929 - - 0.945



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04072016SJGW12

Inj: 1 Acquired: 26-JUN-16 01:31:21 Run #15 Filename P604000 Samp: 1

LAB. ID: E1600326-006 Processed: 1-JUL-16 13:08:59

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	9.28e+02	*	*	2.97e+03	*
3	2,3,4,7,8-PeCDF	*	5.40e+02	*	*	1.65e+03	*
11	2,3,7,8-TCDD	*	1.31e+03	*	*	9.08e+02	*
18	13C-2,3,7,8-TCDF	2.61e+06	5.25e+03	5.0e+02	3.31e+06	2.36e+03	1.4e+03
19	13C-1,2,3,7,8-PeCDF	4.44e+06	2.59e+03	1.7e+03	2.73e+06	2.64e+03	1.0e+03
20	13C-2,3,4,7,8-PeCDF	8.03e+05	2.59e+03	3.1e+02	5.10e+05	2.64e+03	1.9e+02
24	13C-1,2,3,7,8,9-HxCDF	3.16e+06	5.28e+02	6.0e+03	6.11e+06	1.19e+03	5.1e+03
26	13C-1,2,3,4-TCDF	7.10e+05	5.25e+03	1.4e+02	8.94e+05	2.36e+03	3.8e+02
						•	
27	13C-2,3,7,8-TCDD	1.85e+06	5.22e+03	3.5e+02	2.31e+06	3.69e+03	6.3e+02
33	13C-1,2,3,4-TCDD	5.69e+06	5.22e+03	1.1e+03	7.14e+06	3.69e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	7.13e+06	2.98e+03	2.4e+03	5.68e+06	1.38e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	5.47e+05	1.45e+03	3.8e+02		•	

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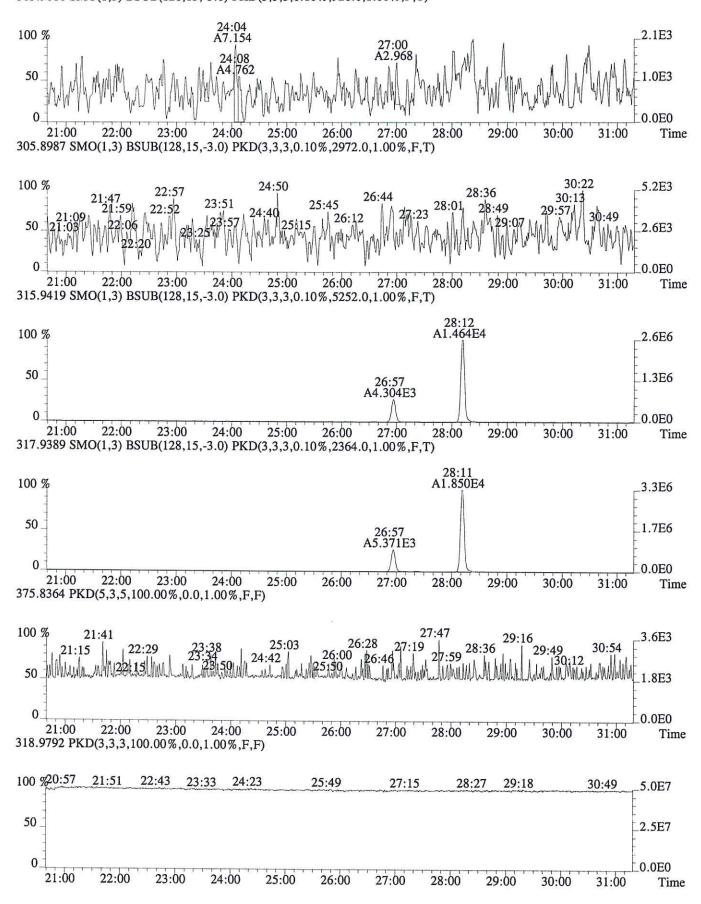
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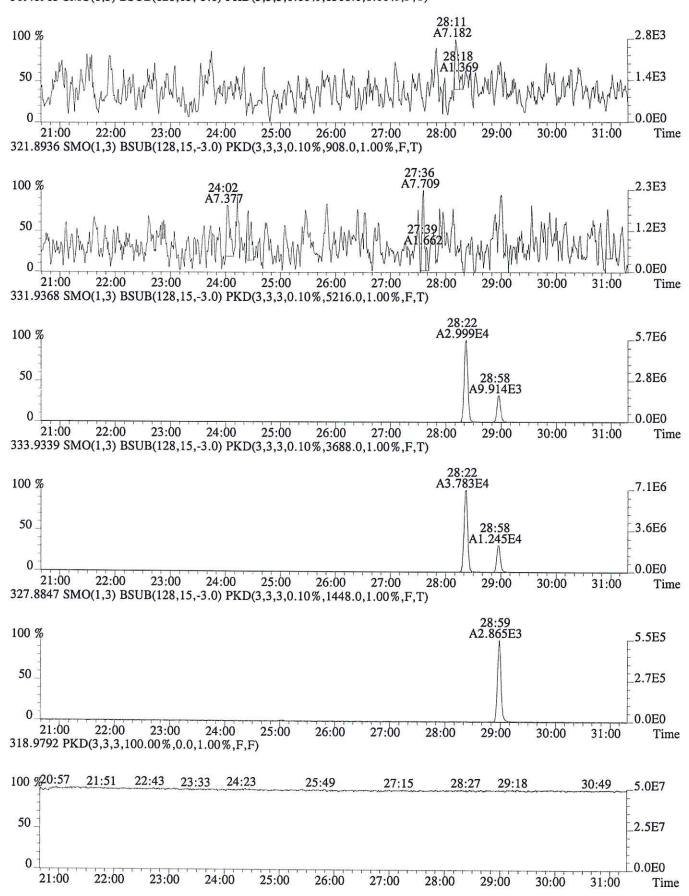
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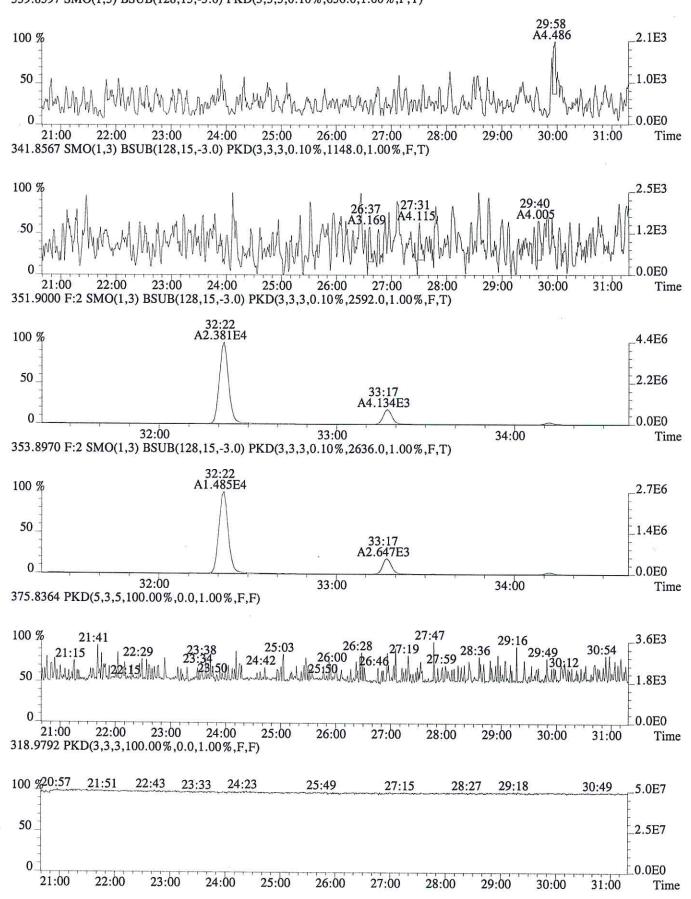
File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,T)



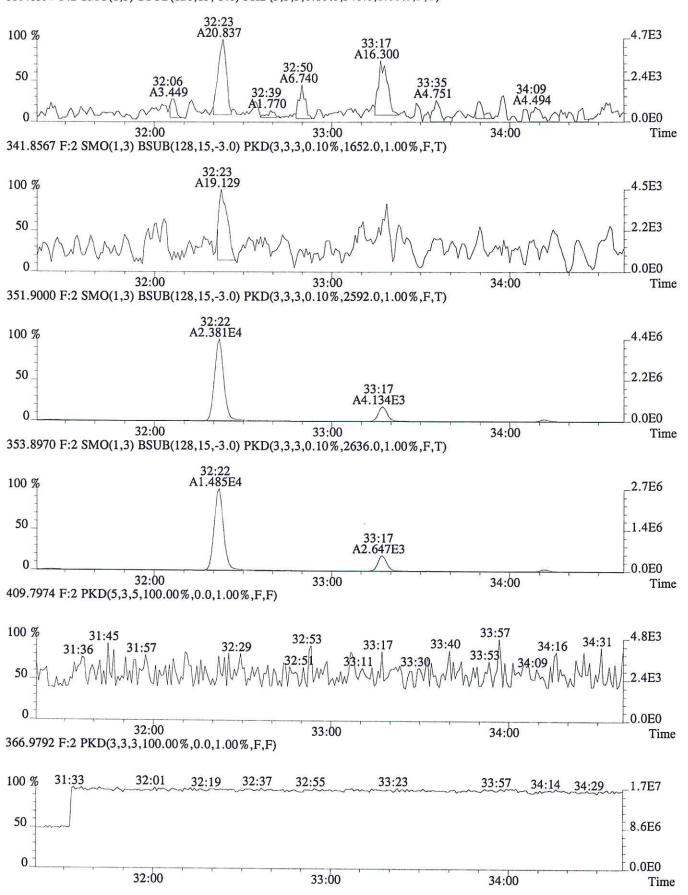
File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)



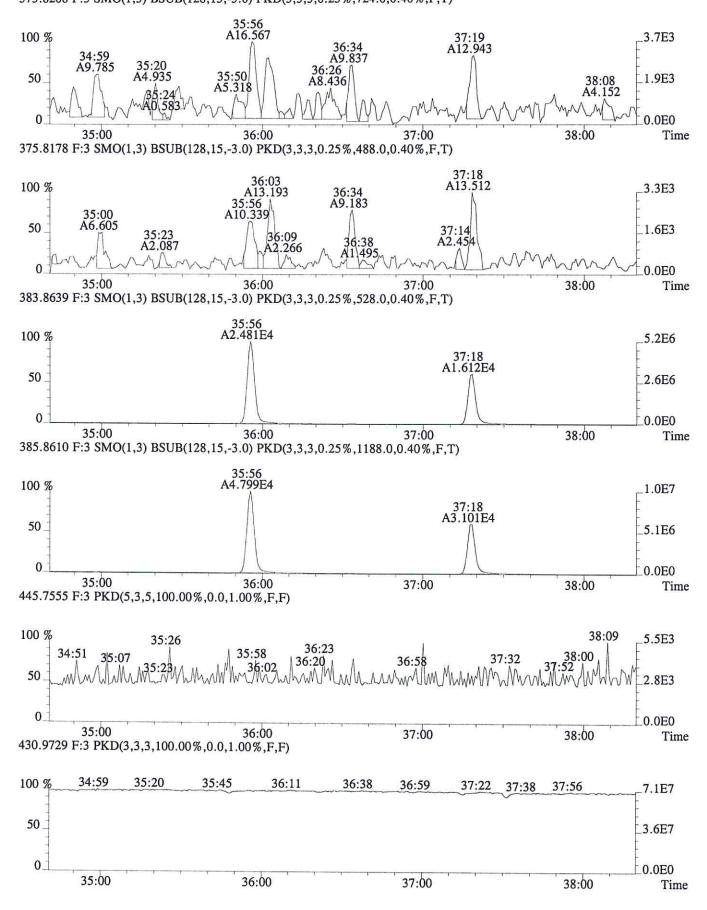
File:P604000 #1-756 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,T)



File:P604000 #1-298 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)



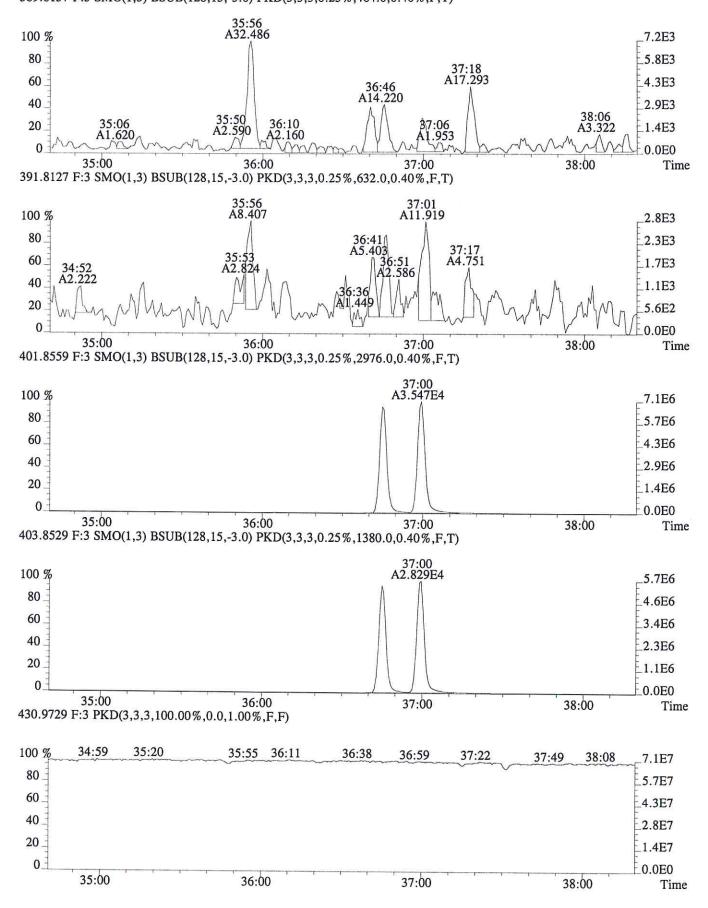
File:P604000 #1-329 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



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E1600326.R1

File:P604000 #1-329 Acq:26-JUN-2016 01:31:21 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-006 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,464.0,0.40%,F,T)



CLIENT ID. 04072016SJGW13

Run #16 Filename P604001 Samp: 1 Inj: 1 Acquired: 26-JUN-16 02:20:22 Processed: 1-JUL-16 13:08:59 Sample ID: E1600326-007

Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF

1 Unk 2,3,7,8-TCDF|NotFnd | * | * | no |no |0.98

	TAD	Name	RI-I	kesp I	Resp 2	Racio i	Meec	Modr	KKF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	* :	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	* 1	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	* :	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	9.363e+02	1.148e+03	0.82	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	1.825e+03	1.174e+03	1.55	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:19	3.054e+02	2.112e+02	1.45	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	1.405e+03	2.709e+03	0.52	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:59	3.168e+02	4.360e+02	0.73	yes	yes	1.325
-0.00	IS	13C-2,3,7,8-TCDD	28:59	5.895e+02	7.688e+02	0.77	yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD	28:23	2.523e+03	3.192e+03	0.79	yes	no	_
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	J. C. C. L. L. C.	3.660e+03	2.846e+03	1.29	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	29:00	1.949e+02				no	0.945

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CLIENT ID. 04072016SJGW13

Run #16 Filename P604001 Samp: 1 Inj: 1 Acquired: 26-JUN-16 02:20:22 Processed: 1-JUL-16 13:08:59 LAB. ID: E1600326-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	8.08e+02	*	*	2.17e+03	*
3	2,3,4,7,8-PeCDF	*	6.20e+02	*	*	1.73e+03	*
11	2,3,7,8-TCDD	*	1.12e+03	*	*	1.03e+03	*
18	13C-2,3,7,8-TCDF	1.44e+05	3.37e+03	4.3e+01	1.83e+05	2.86e+03	6.4e+01
19	13C-1,2,3,7,8-PeCDF	2.98e+05	7.32e+02	4.1e+02	1.92e+05	1.19e+03	1.6e+02
20	13C-2,3,4,7,8-PeCDF	5.63e+04	7.32e+02	7.7e+01	3.56e+04	1.19e+03	3.0e+01
24	13C-1,2,3,7,8,9-HxCDF	2.61e+05	6.12e+02	4.3e+02	4.89e+05	1.65e+03	3.0e+02
26	13C-1,2,3,4-TCDF	4.89e+04	3.37e+03	1.5e+01	6.38e+04	2.86e+03	2.2e+01
27	13C-2,3,7,8-TCDD	1.04e+05	6.63e+03	1.6e+01	1.35e+05	4.19e+03	3.2e+01
33	13C-1,2,3,4-TCDD	4.45e+05	6.63e+03	6.7e+01	5.77e+05	4.19e+03	1.4e + 02
34	13C-1,2,3,7,8,9-HxCDD	7.04e+05	1.52e+03	4.6e+02	5.43e+05	1.11e+03	4.9e+02
35	37C1-2,3,7,8-TCDD	3.27e+04	1.64e+03	2.0e+01			

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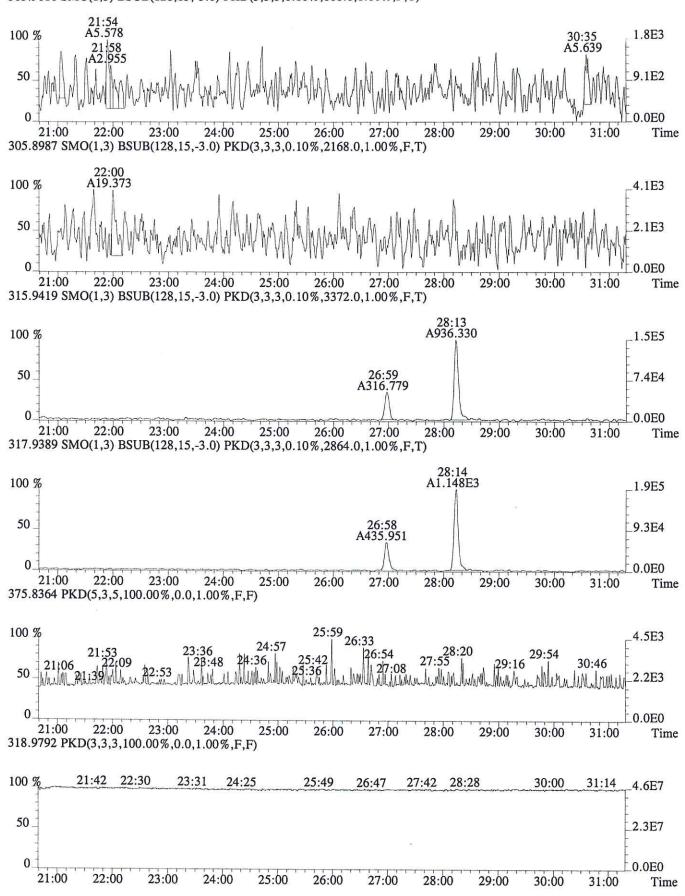
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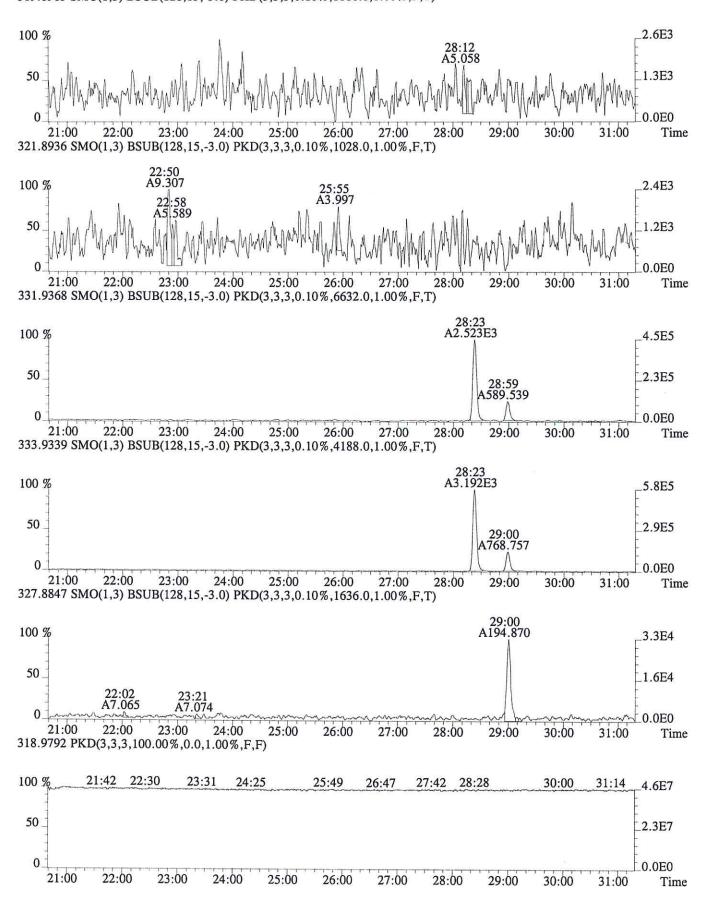
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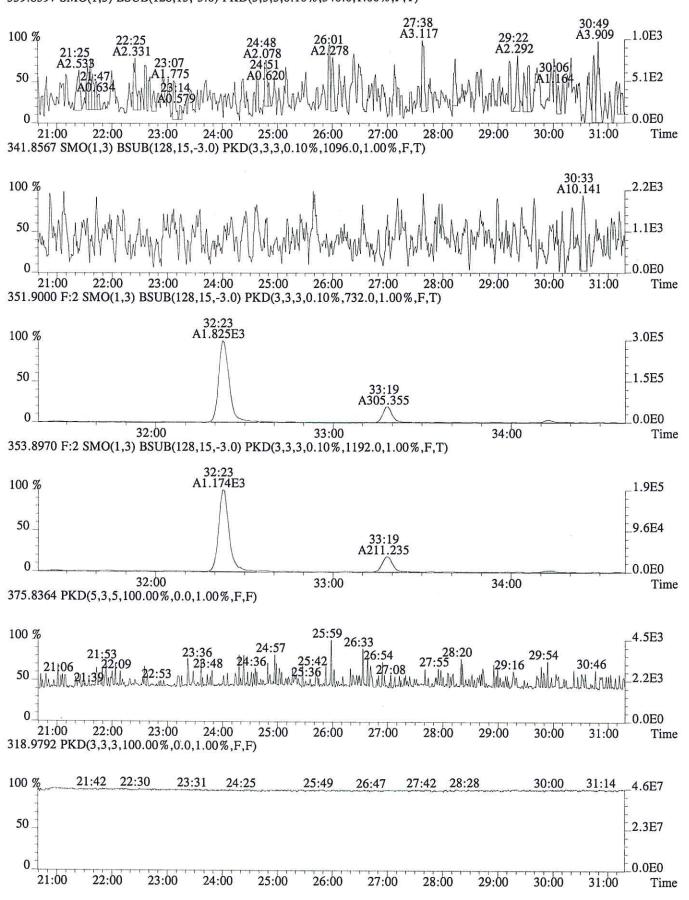
File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,T)



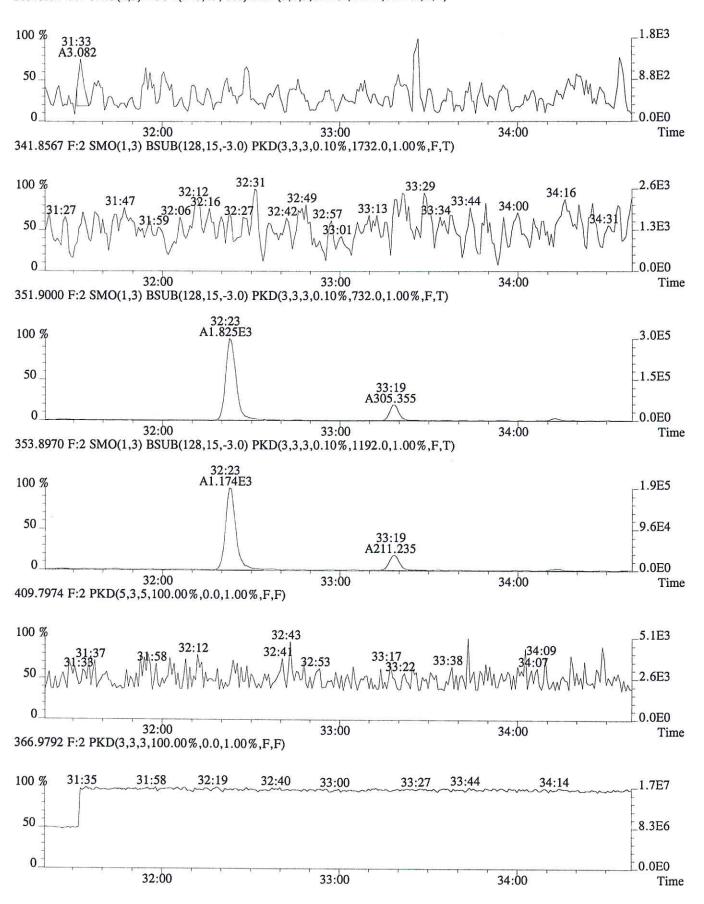
File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1116.0,1.00%,F,T)



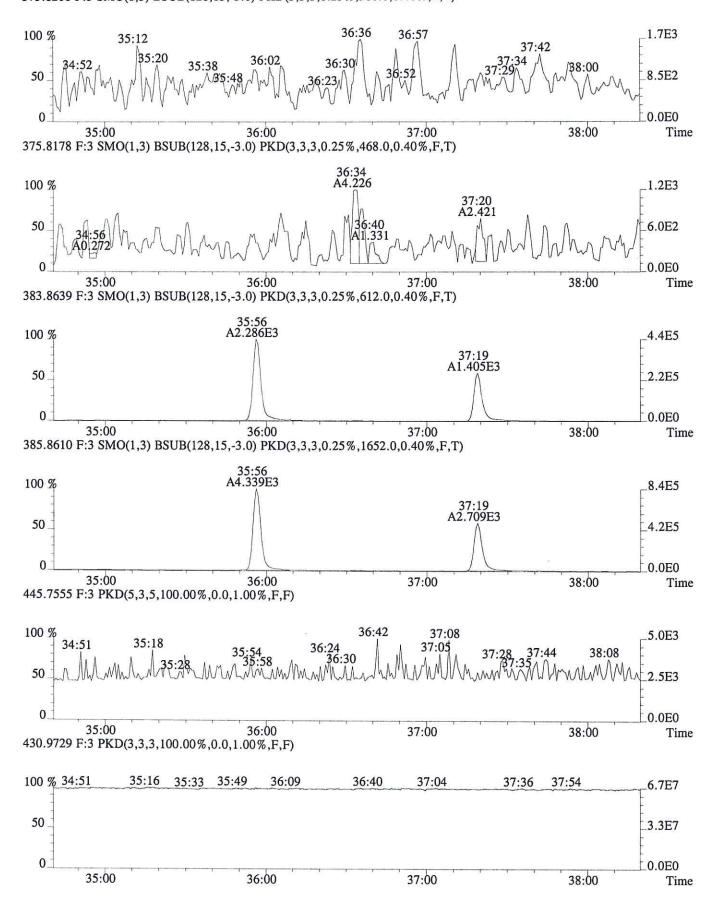
File:P604001 #1-756 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



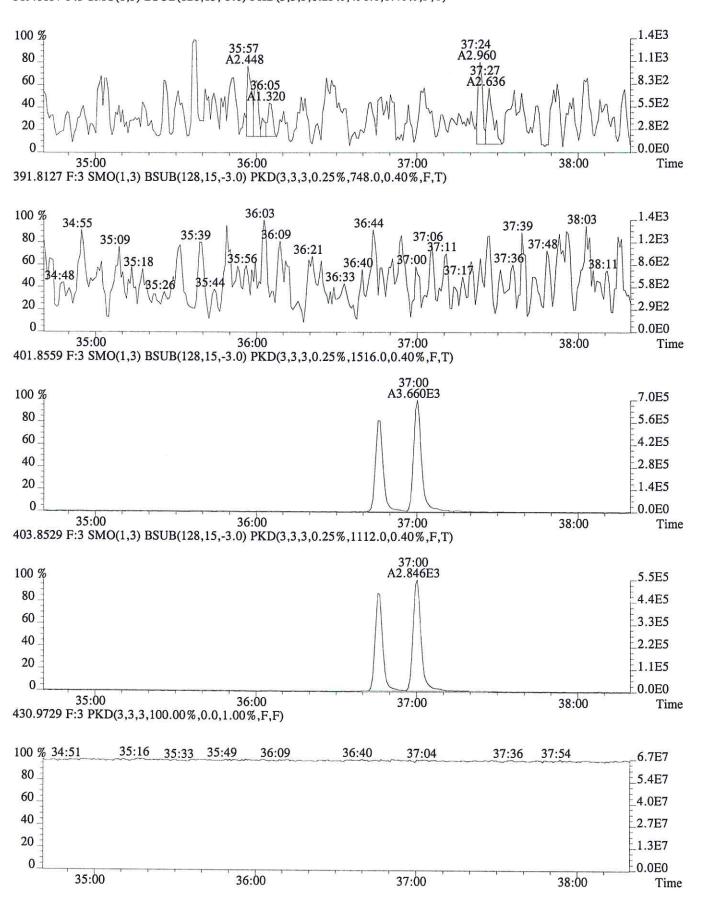
File:P604001 #1-298 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



File:P604001 #1-329 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



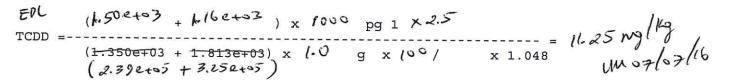
File:P604001 #1-329 Acq:26-JUN-2016 02:20:22 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-007 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



CLIENT ID. 04072016SJGW14

Run #12 Filename P604010 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:07:59 Processed: 7-JUL-16 10:26:15 Sample ID: E1600326-008

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk IS IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	NotFnd NotFnd 28:14 32:23 33:19 37:19	* 1.950e+03 3.723e+03 6.927e+02 2.657e+03 6.435e+02	* 2.562e+03 2.354e+03 4.206e+02 5.412e+03 8.888e+02	* no * no * no 0.76 yes 1.58 yes 1.65 yes 0.49 yes 0.72 yes	no no no no no no no no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:24 37:00	1.350e+03 4.811e+03 6.939e+03 4.220e+02	1.813e+03 6.255e+03 5.375e+03	0.74 yes 0.77 yes 1.29 yes	no no no	0.929 - - 0.945



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CLIENT ID. 04072016SJGW14

Run #12 Filename P604010 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:07:59

Processed: 7-JUL-16 10:26:15 LAB. ID: E1600326-008

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	9.36e+02	*	*	2.80e+03	*
3	2,3,4,7,8-PeCDF	*	6.76e+02	*	*	1.67e+03	*
11	2,3,7,8-TCDD	*	1.50e+03	*	*	1.16e+03	*
18	13C-2,3,7,8-TCDF	3.37e+05	5.42e+03	6.2e+01	4.35e+05	2.86e+03	1.5e+02
19	13C-1,2,3,7,8-PeCDF	6.69e+05	1.24e+03	5.4e+02	4.21e+05	1.01e+03	4.2e+02
20	13C-2,3,4,7,8-PeCDF	1.35e+05	1.24e+03	1.1e+02	7.79e+04	1.01e+03	7.7e+01
24	13C-1,2,3,7,8,9-HxCDF	5.21e+05	8.08e+02	6.5e+02	1.06e+06	1.90e+03	5.6e+02
26	13C-1,2,3,4-TCDF	1.11e+05	5.42e+03	2.0e+01	1.43e+05	2.86e+03	5.0e+01
27	13C-2,3,7,8-TCDD	2.39e+05	8.46e+03	2.8e+01	3.25e+05	3.56e+03	9.1e+01
33	13C-1,2,3,4-TCDD	8.74e+05	8.46e+03	1.0e+02	1.17e+06	3.56e+03	3.3e+02
34	13C-1,2,3,7,8,9-HxCDD	1.38e+06	2.51e+03	5.5e+02	1.06e+06	1.20e+03	8.8e+02
35	37Cl-2,3,7,8-TCDD	7.41e+04	1.88e+03	3.9e+01			

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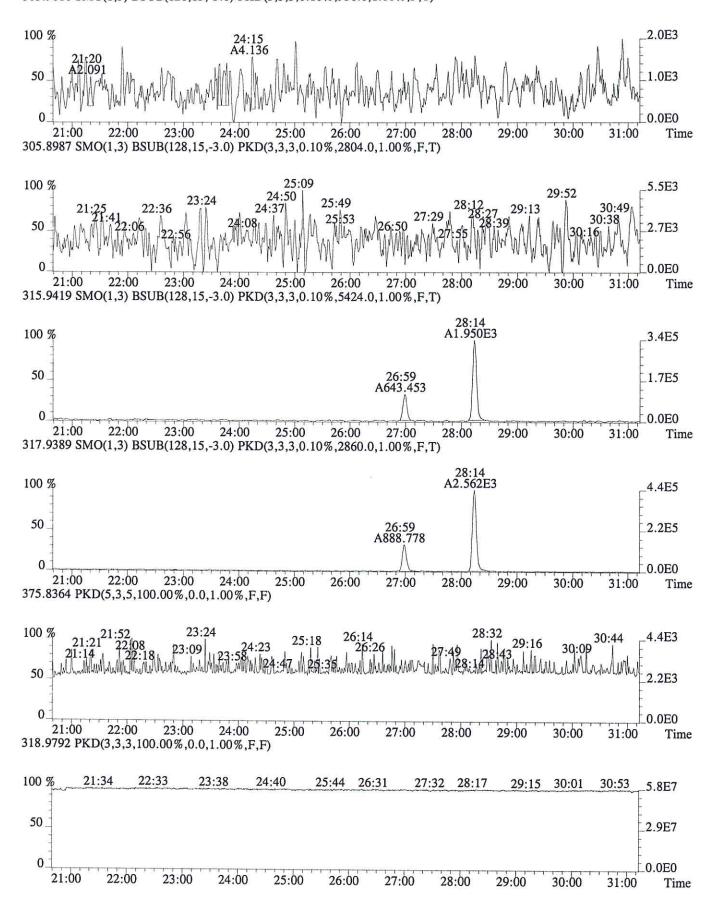
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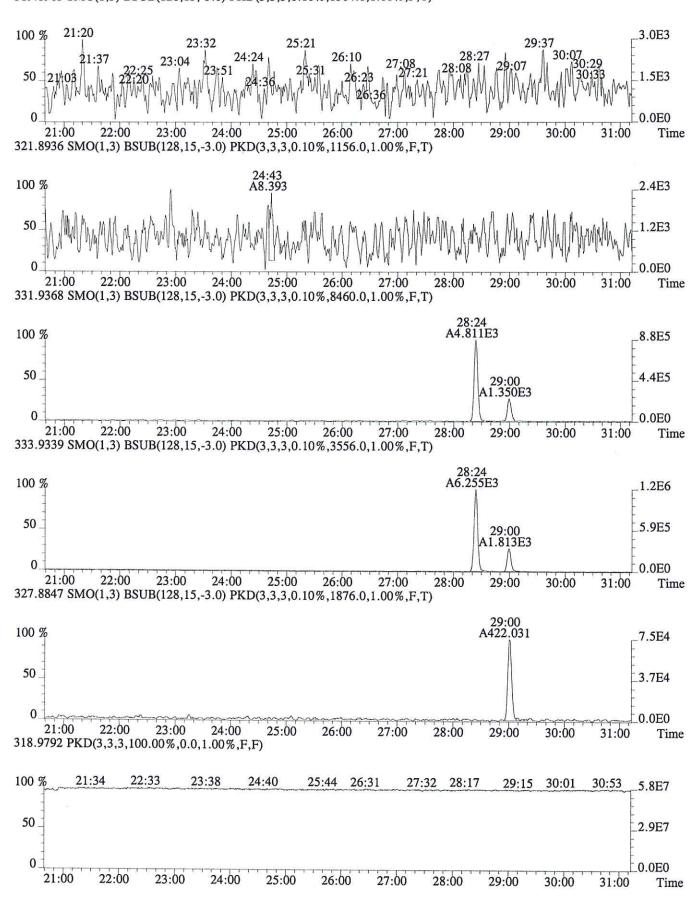
E1600326.R1 131 of 327

File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,T)

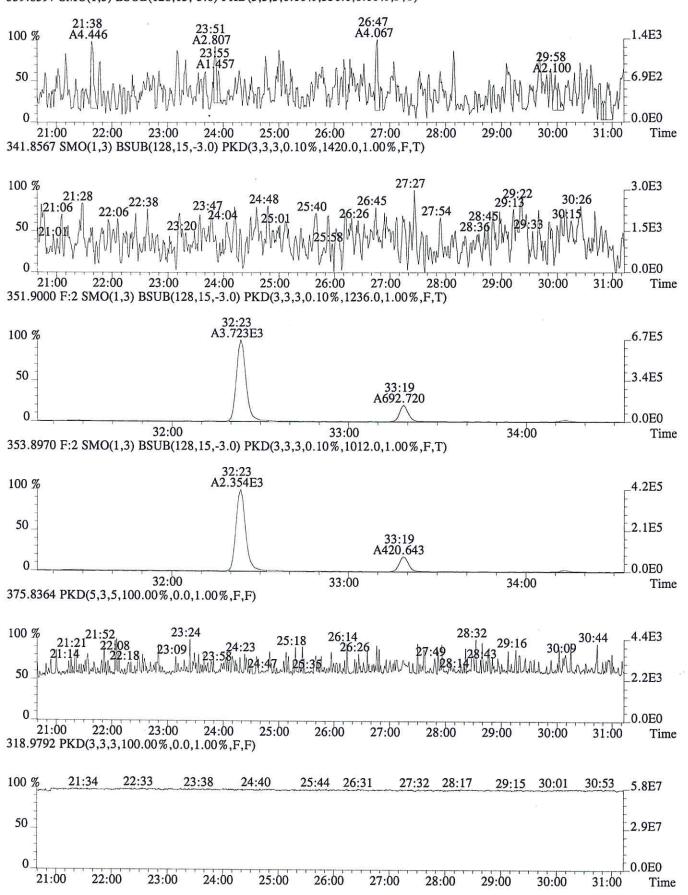


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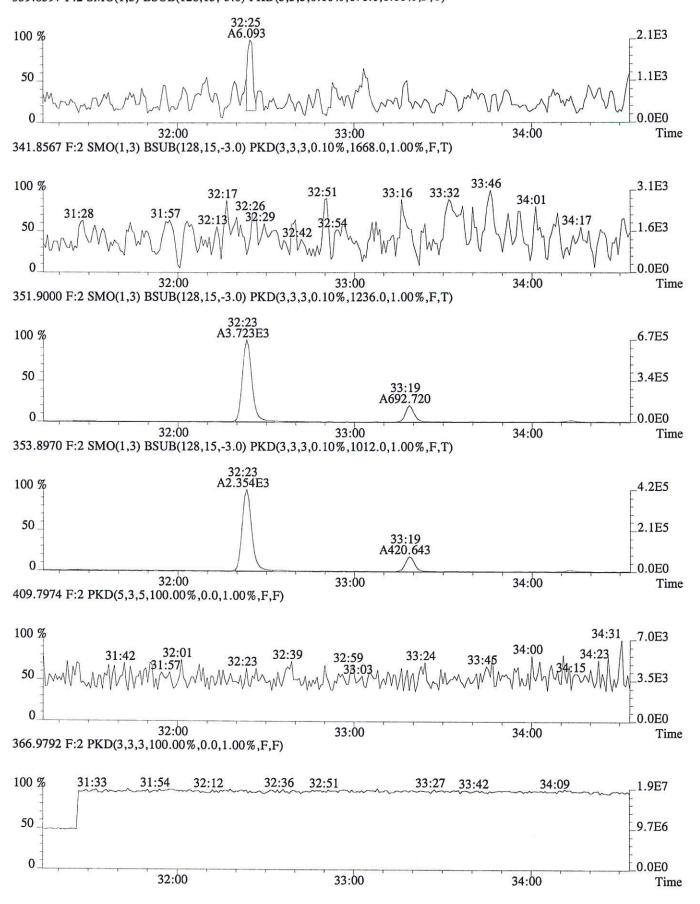
File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



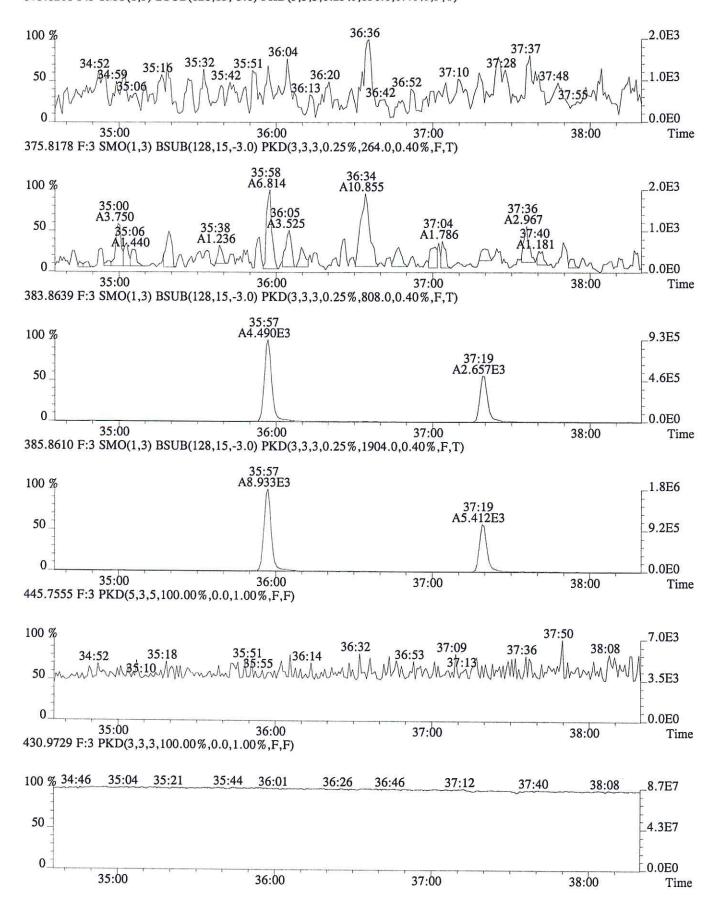
File:P604010 #1-749 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



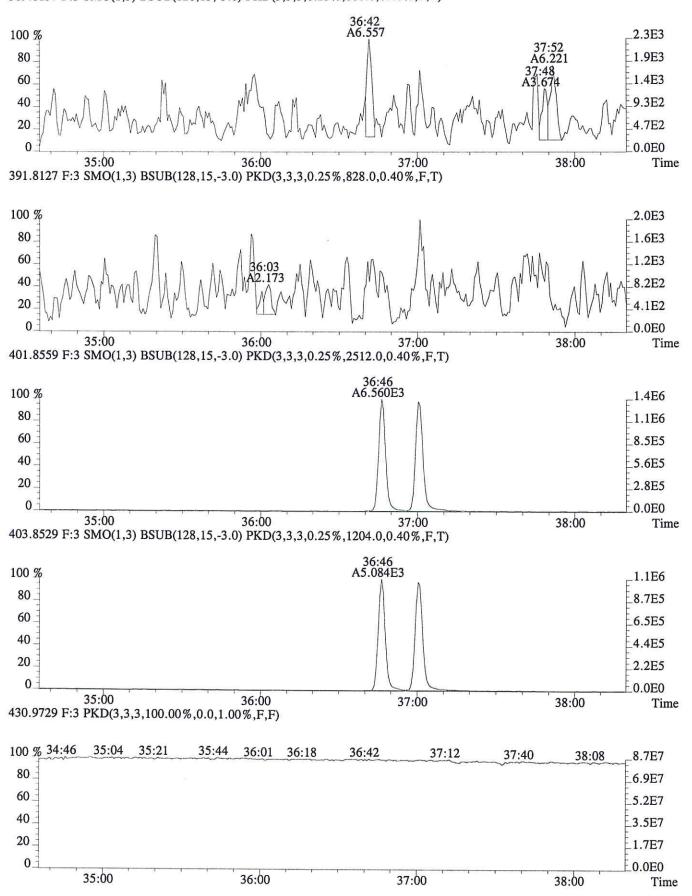
File:P604010 #1-299 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)



File:P604010 #1-337 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



File:P604010 #1-337 Acq:26-JUN-2016 14:07:59 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-008 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



CLIENT ID. 04072016SJGW15

Run #13 Filename P604011 Samp: 1 Inj: 1 Acquired: 26-JUN-16 14:54:24 Processed: 7-JUL-16 10:26:16 Sample ID: E1600326-009

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
3 1 11 1 18 19 20 24	IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF	NotFnd NotFnd 28:11 32:21 33:17 37:18	* 1.584e+04 2.740e+04 4.757e+03 1.931e+04	* 1.994e+04 1.737e+04 2.932e+03 3.838e+04	* 0.79 1.58 1.62 0.50	no no yes yes yes yes	no yes no no no no no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875
34		13C-1,2,3,4-TCDF 13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37Cl-2,3,7,8-TCDD	28:57 28:21 36:59	4.721e+03 1.149e+04 3.901e+04 4.445e+04 3.377e+03	5.988e+03 1.473e+04 4.972e+04 3.489e+04	0.79 0.78 0.78 0.78 1.27	yes yes	no no no no no	1.325 0.929 - - 0.945

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CLIENT ID. 04072016SJGW15

Run #13 Filename P604011 Samp: 1 Acquired: 26-JUN-16 14:54:24 Inj: 1 Processed: 7-JUL-16 10:26:16 LAB. ID: E1600326-009 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF | * 1.28e+03 | * 2.46e+03 3 2,3,4,7,8-PeCDF | * 9.32e+02 1.50e+03 11 2,3,7,8-TCDD | * 1.22e+03 1.50e+03 13C-2,3,7,8-TCDF 2.91e+06 6.23e+03 4.7e+02 3.61e+06 3.14e+03 18 1.1e + 0313C-1,2,3,7,8-PeCDF | 5.12e+06 | 1.12e+03 | 4.6e+03 | 3.23e+06 | 1.09e+03 | 3.0e+03 19

			_,,	2.00.00	0.200.00	2.000.00	0.00.00
20	13C-2,3,4,7,8-PeCDF	9.10e+05	1.12e+03	8.1e+02	5.62e+05	1.09e+03	5.1e+02
24	13C-1,2,3,7,8,9-HxCDF	3.89e+06	1.14e+03	3.4e+03	7.80e+06	2.08e+03	3.8e+03
26	13C-1,2,3,4-TCDF	7.79e+05	6.23e+03	1.2e+02	9.80e+05	3.14e+03	3.1e+02
		-				•	
27	13C-2,3,7,8-TCDD	2.23e+06	9.68e+03	2.3e+02	2.82e+06	4.46e+03	6.3e+02
33	13C-1,2,3,4-TCDD	7.43e+06	9.68e+03	7.7e+02	9.48e+06	4.46e+03	2.1e+03
34	13C-1,2,3,7,8,9-HxCDD						
35	37C1-2,3,7,8-TCDD						

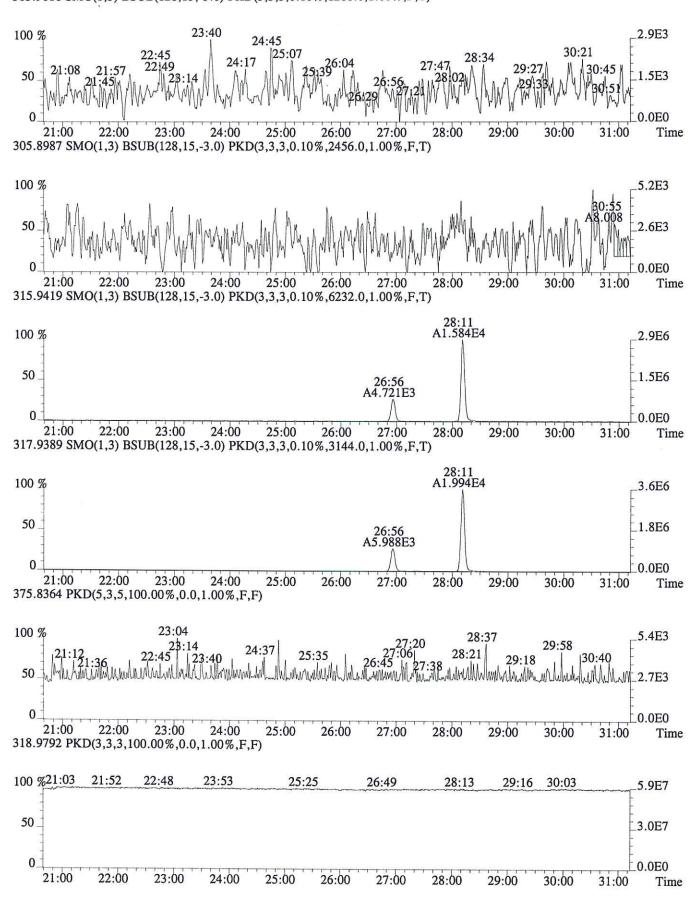
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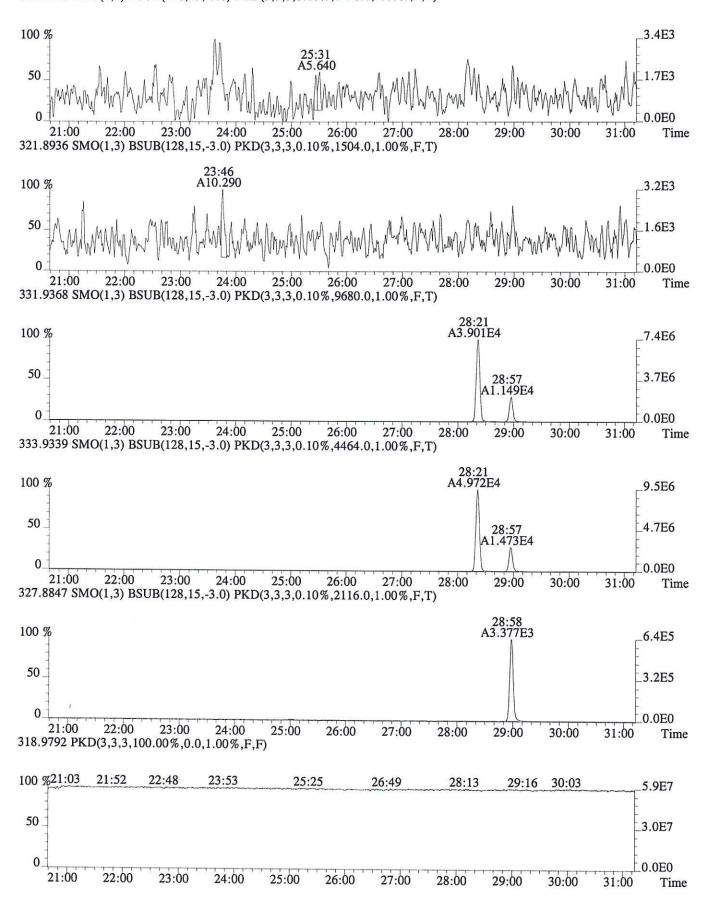
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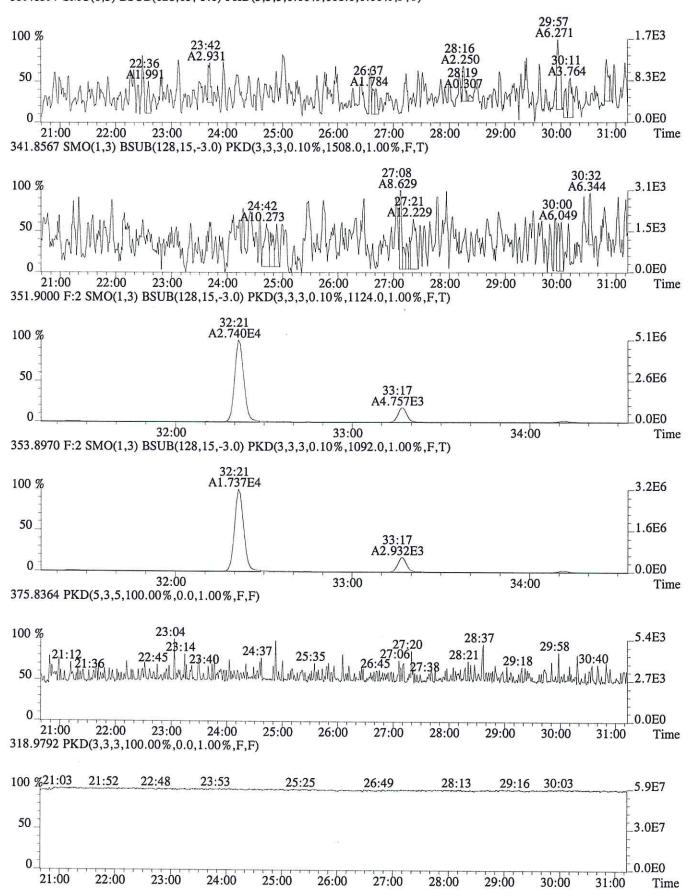
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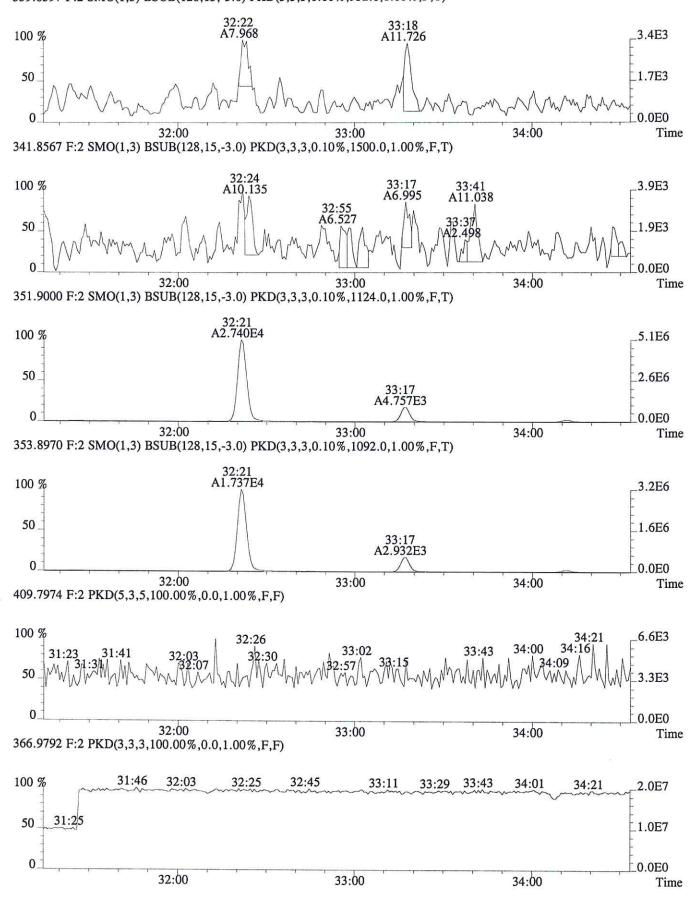
File:P604011 #1-749 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



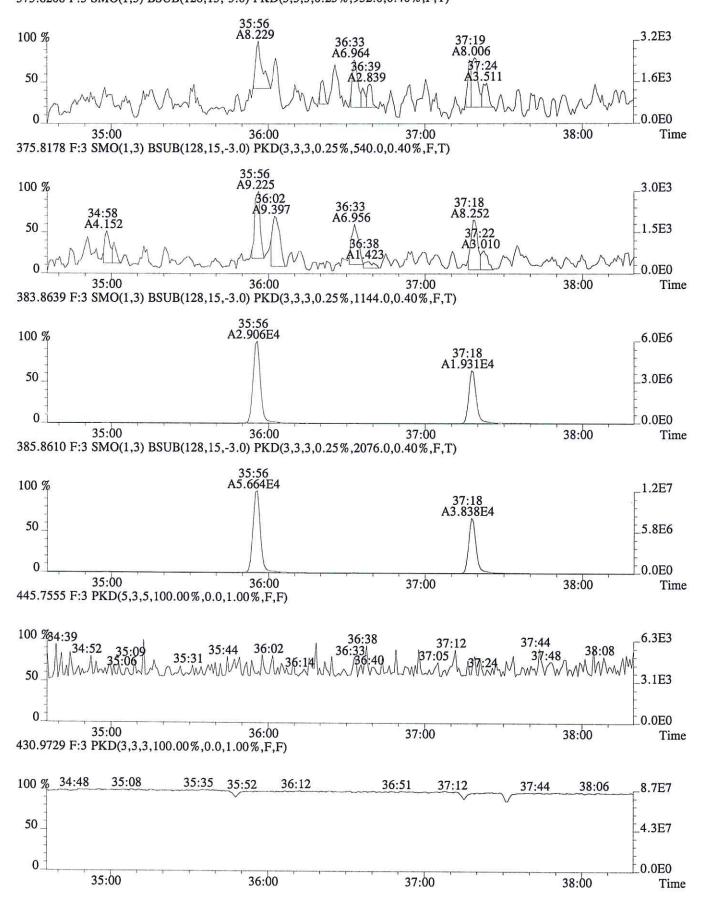
File:P604011 #1-749 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,608.0,1.00%,F,T)



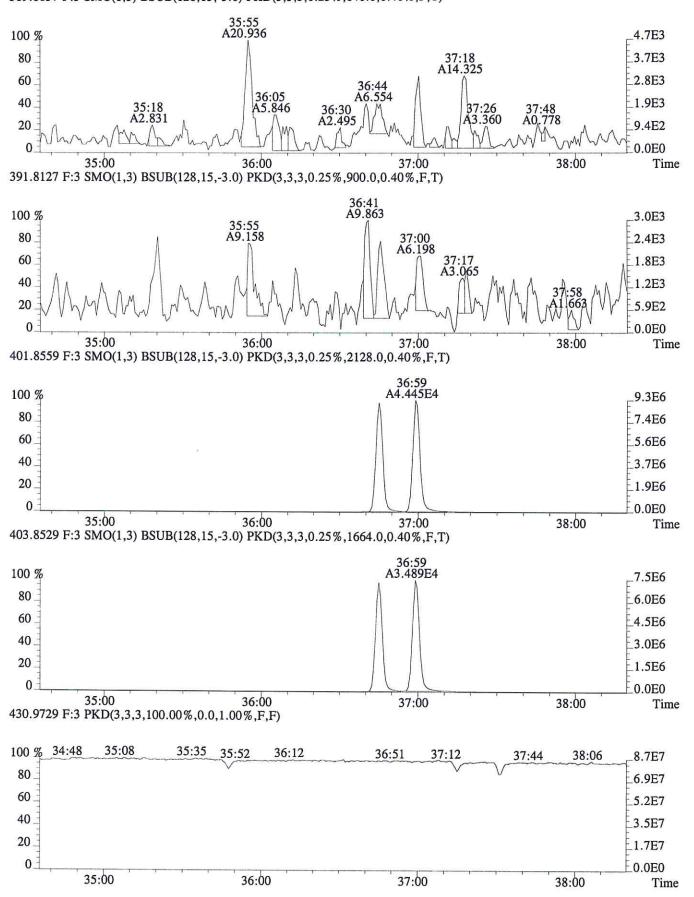
File:P604011 #1-299 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



File:P604011 #1-337 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



File:P604011 #1-337 Acq:26-JUN-2016 14:54:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:E1600326-009 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,640.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09 Processed: 1-JUL-16 11:44:18 Sample ID: EQ1600219-01

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	4.809e+01	3.936e+01	1.22	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.349e+04	4.194e+04	0.80	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	4.984e+04	3.137e+04	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:17	4.723e+04	2.963e+04	1.59	yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	2.878e+04	5.649e+04	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	*	no	no	1.324
					<i>5</i>	25 15		7.1	7.0
27	IS	13C-2,3,7,8-TCDD	28:58	2.559e+04	3.261e+04	0.78	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:22	3.155e+04	3.965e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.547e+04	2.995e+04	1.18	yes	no	-
35	C/Up	37C1-2,3,7,8-TCDD	28:59	6.727e+01	5	20		no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #8 Filename P603993 Samp: 1 Inj: 1 Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18 LAB. ID: EQ1600219-01

Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

1	2,3,7,8-TCDF	*	1.18e+03	*	*	3.42e+03	*
3	2,3,4,7,8-PeCDF	9.96e+03	6.92e+02	1.4e+01	8.22e+03	1.70e+03	4.8e+00
11	2,3,7,8-TCDD	*	1.70e+03	*	*	1.42e+03	*
18	13C-2,3,7,8-TCDF	6.07e+06	6.55e+03	9.3e+02	7.58e+06	3.48e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.10e+06	7.38e+03	1.2e+03	5.72e+06	5.96e+03	9.6e+02
20	13C-2,3,4,7,8-PeCDF	9.20e+06	7.38e+03	1.2e+03	5.79e+06	5.96e+03	9.7e+02
24	13C-1,2,3,7,8,9-HxCDF	5.77e+06	1.08e+03	5.3e+03	1.10e+07	2.23e+03	4.9e + 03
26	13C-1,2,3,4-TCDF	*	6.55e+03	*	*	3.48e+03	*
27	13C-2,3,7,8-TCDD	4.95e+06	9.06e+03	5.5e+02	6.29e+06	3.78e+03	1.7e+03
33	13C-1,2,3,4-TCDD	6.03e+06	9.06e+03	6.7e+02	7.53e+06	3.78e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	7.29e+06	2.17e+03	3.4e+03	5.91e+06	1.44e+03	4.1e+03
35	37C1-2,3,7,8-TCDD	1.20e+04	2.08e+03	5.8e+00		,	

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ALS ENVIRONMENTAL Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 39 Totals Name: Total Penta-Furans2

Run: 8 File: P603993

Sample:1 Injection:1 Function:2

Acquired: 25-JUN-16 19:48:09

Processed: 1-JUL-16 11:44:18

Mass: 339.8600 341.8570 Tot Response: 1.28e+02 RRF: 0.9596

RT Resp Resp Ratio Meet Tot Resp

Name

Mod1? Mod2

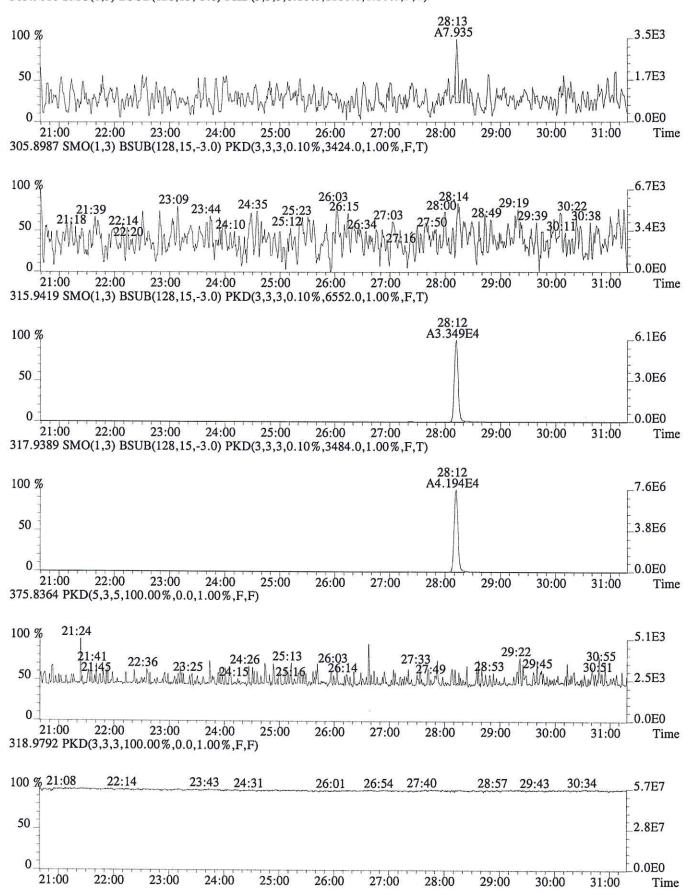
32:23 7.46e+01 5.34e+01 1.40 yes 1.28e+02 1,2,3,7,8-PeCDF

n

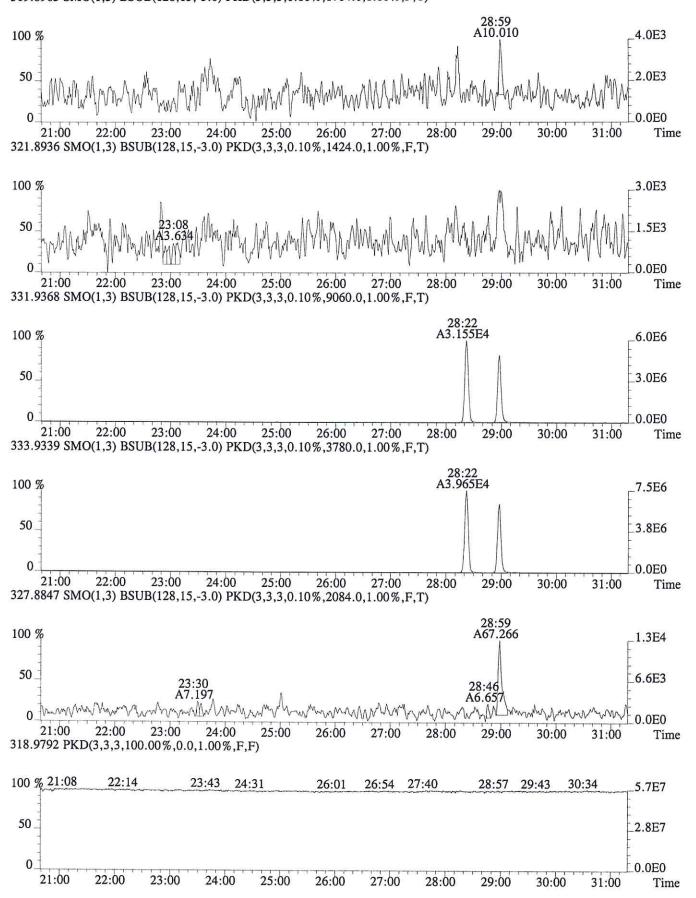
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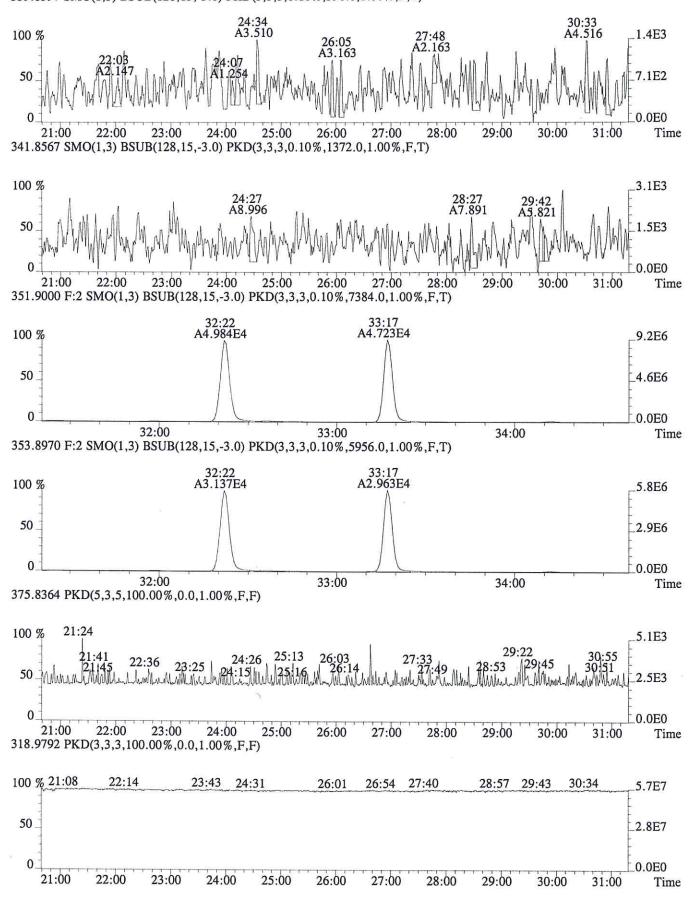
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



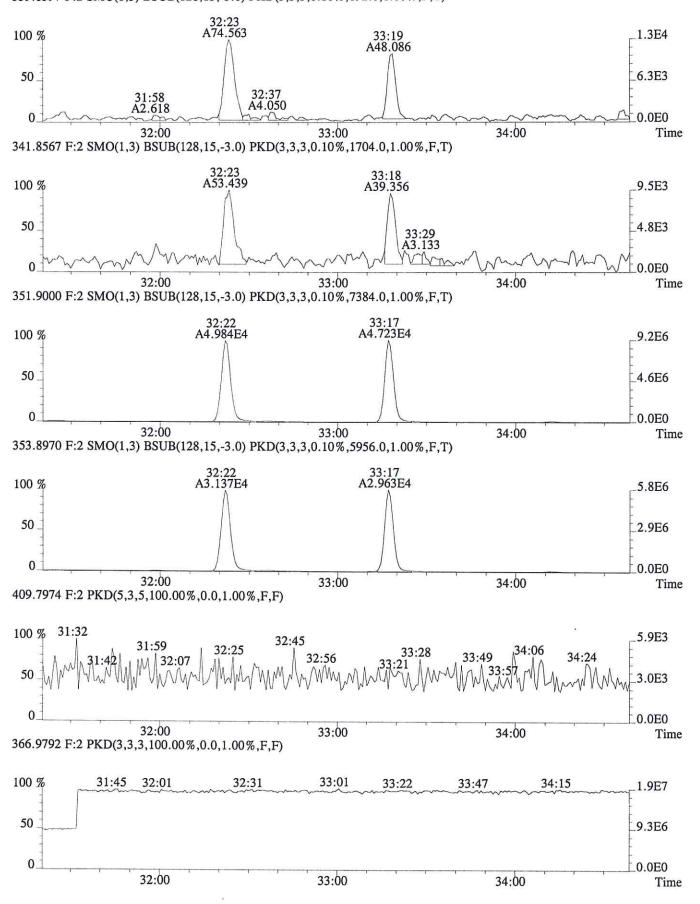
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1704.0,1.00%,F,T)



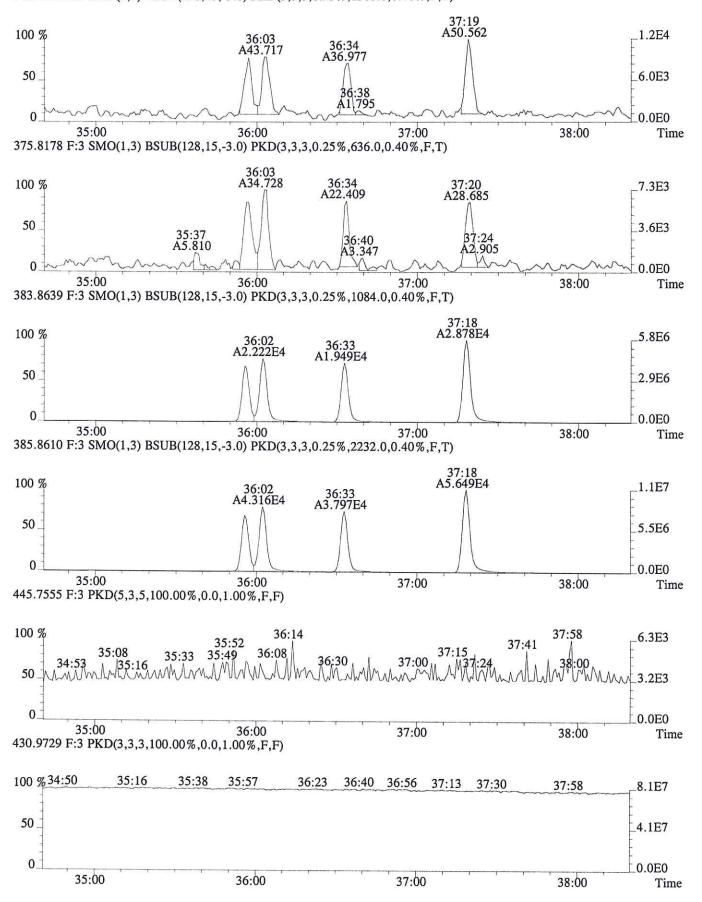
File:P603993 #1-756 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



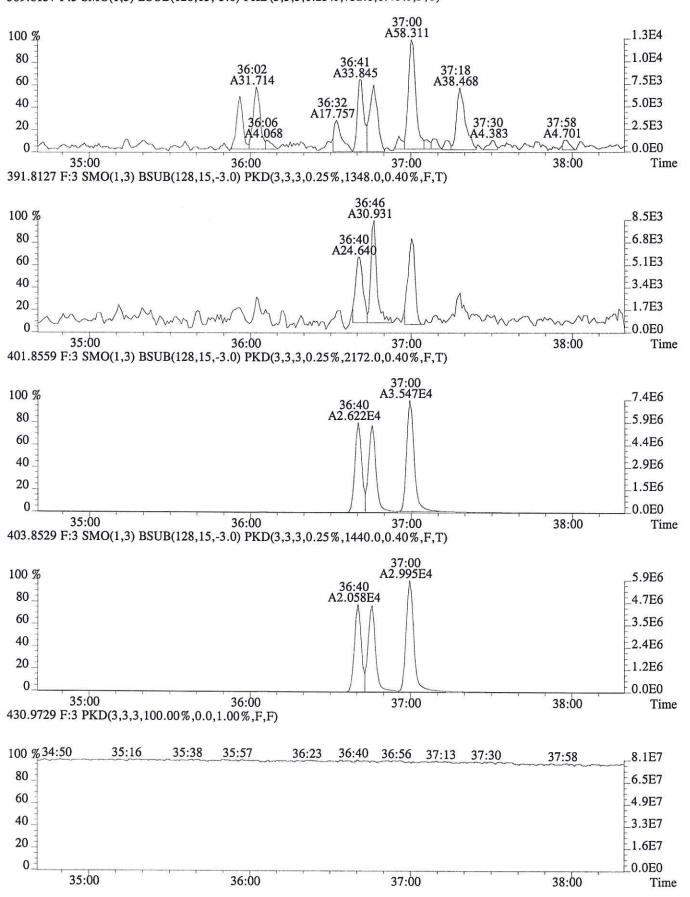
File:P603993 #1-298 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



File:P603993 #1-329 Acq:25-JUN-2016 19:48:09 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #7 Filename P604002 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:09:23

Processed: 1-JUL-16 15:35:42 Sample ID: EQ1600219-02

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:14	2.801e+03	3.660e+03	0.77 yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.190e+04	1.413e+04	1.55 yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	2.231e+03	2.891e+03	0.77 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:12	3.350e+04	4.172e+04	0.80 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	5.040e+04	3.141e+04	1.60 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.698e+04	2.983e+04	1.57 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.332e+04	6.463e+04	0.52 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	* no	no	1.324
							0	
	IS	13C-2,3,7,8-TCDD	28:58	2.534e+04	3.171e+04	0.80 yes	no	0.929
	RS/RT	13C-1,2,3,4-TCDD		2.878e+04	3.661e+04	0.79 yes	no	
	RS/RT	13C-1,2,3,7,8,9-HxCDD		3.503e+04	2.861e+04	1.22 yes	no	j.=:
35	C/Up	37C1-2,3,7,8-TCDD	29:00	7.948e+01			no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID.

Run #7 Filename P604002 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:09:23 Processed: 1-JUL-16 15:35:42 LAB. ID: EQ1600219-02 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF| 5.03e+05| 7.96e+02| 6.3e+02| 6.62e+05| 2.36e+03| 2.8e + 023 2,3,4,7,8-PeCDF | 4.38e+06 | 2.79e+03 | 1.6e+03 2.85e+06 2.28e+03 1.2e + 0311 2,3,7,8-TCDD 4.39e+05 1.02e+03 4.3e+02 5.62e+05 1.12e+03 5.0e + 0218 13C-2,3,7,8-TCDF 6.10e+06 7.65e+06 3.89e+03 1.6e+03 2.73e+03 2.8e + 0319 9.44e+06 13C-1,2,3,7,8-PeCDF 5.98e+03 1.6e+03 5.84e+06 6.68e+02 8.7e+03 20 13C-2,3,4,7,8-PeCDF 9.26e+06 5.98e+03 | 1.5e+03 | 5.88e+06 6.68e+02 8.8e+03 24 13C-1,2,3,7,8,9-HxCDF 6.74e+06 | 7.64e+02 | 8.8e+03 | 1.29e+07 1.90e+03 | 6.8e+03 26 13C-1,2,3,4-TCDF 3.89e+03 * 2.73e+03 * 27 13C-2,3,7,8-TCDD | 4.84e+06 | 7.32e+03 | 6.6e+02 | 6.09e+06 | 2.92e+03 | 2.1e+03 33 13C-1,2,3,4-TCDD 5.37e+06 | 7.32e+03 | 7.3e+02 | 6.86e+06 | 2.92e+03 | 2.4e+03 34 13C-1,2,3,7,8,9-HxCDD 7.54e+06 1.57e+03 4.8e+03 5.95e+06 1.14e+03 5.2e+03 35 37Cl-2,3,7,8-TCDD| 1.40e+04| 1.43e+03| 9.8e+00

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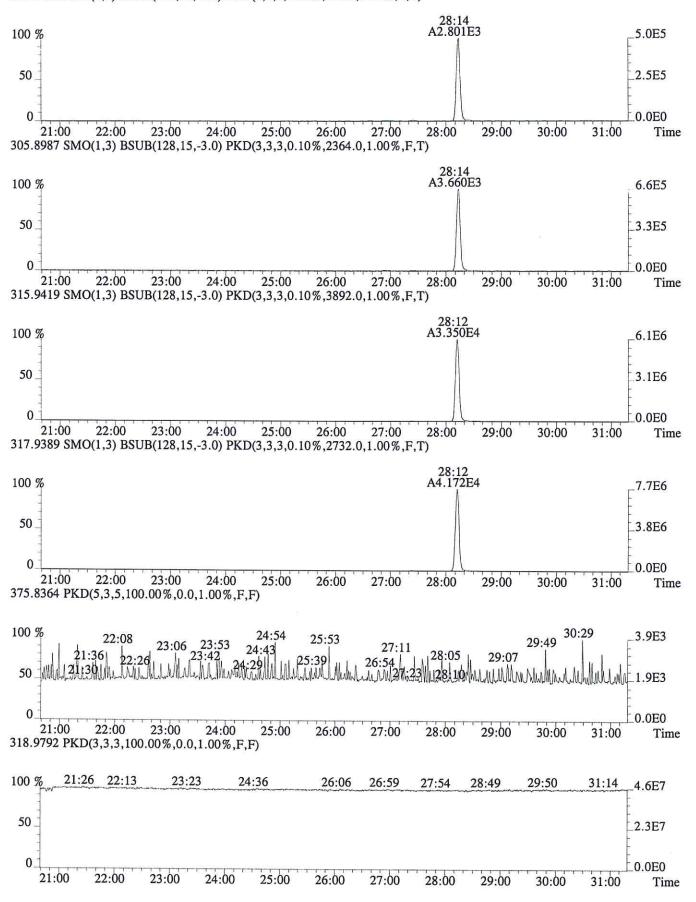
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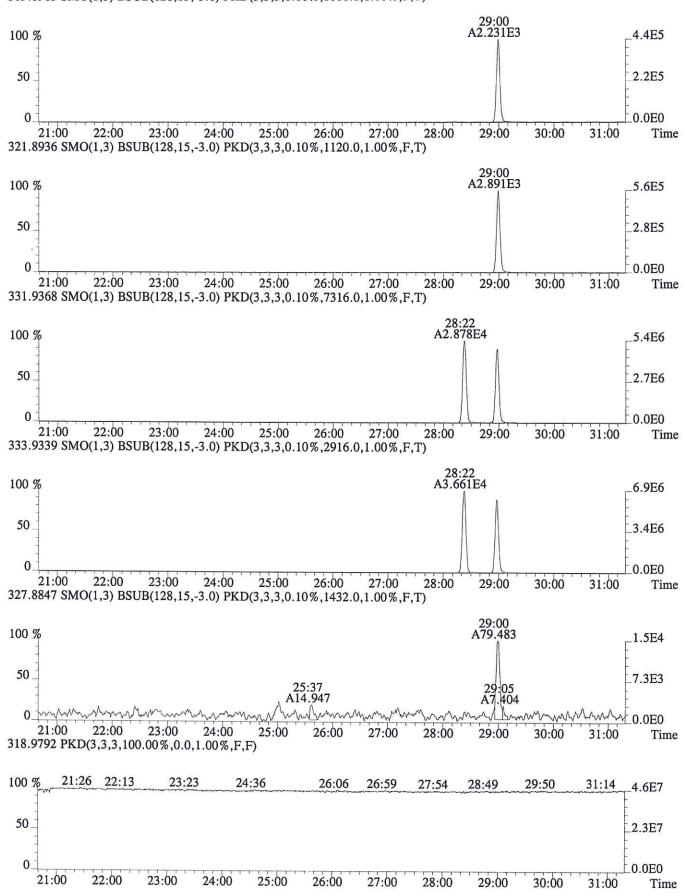
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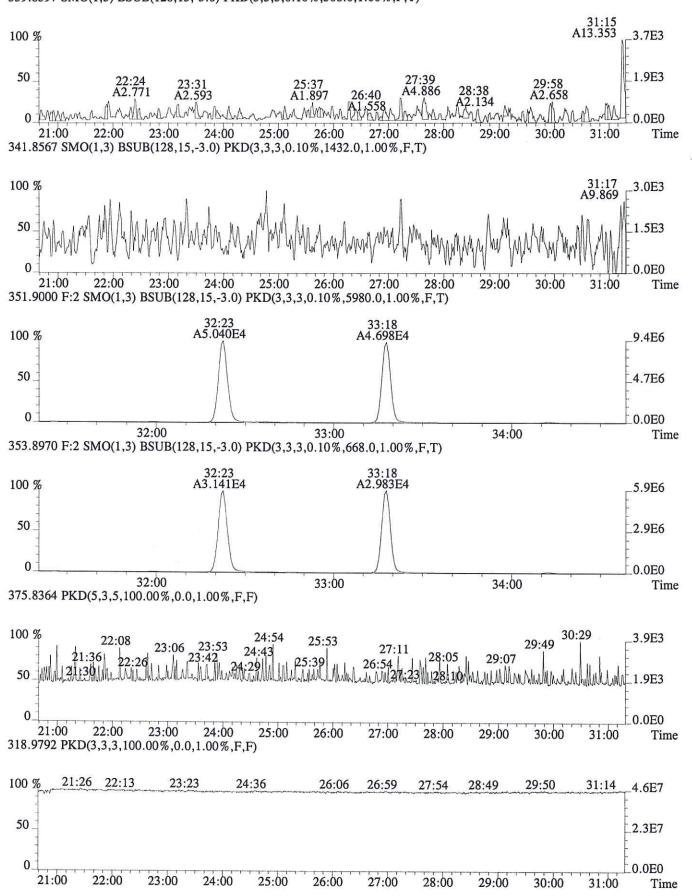
File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



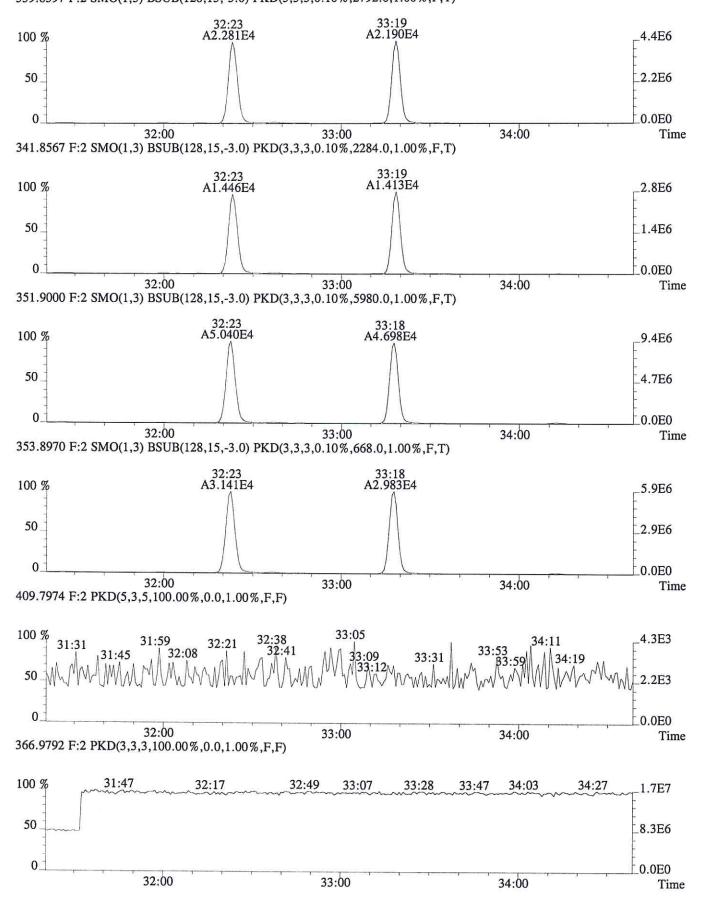
File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,T)



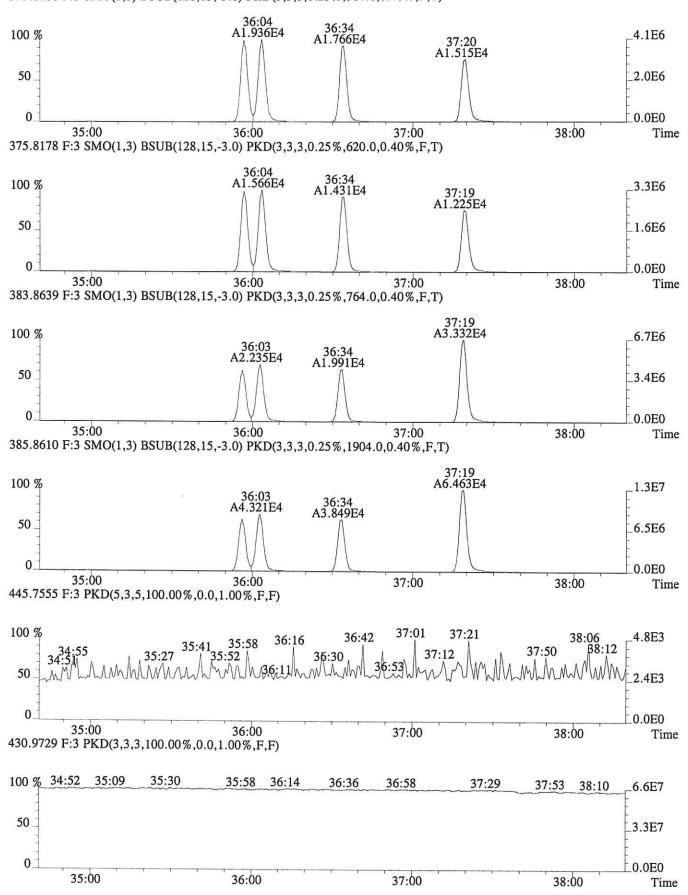
File:P604002 #1-756 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,T)



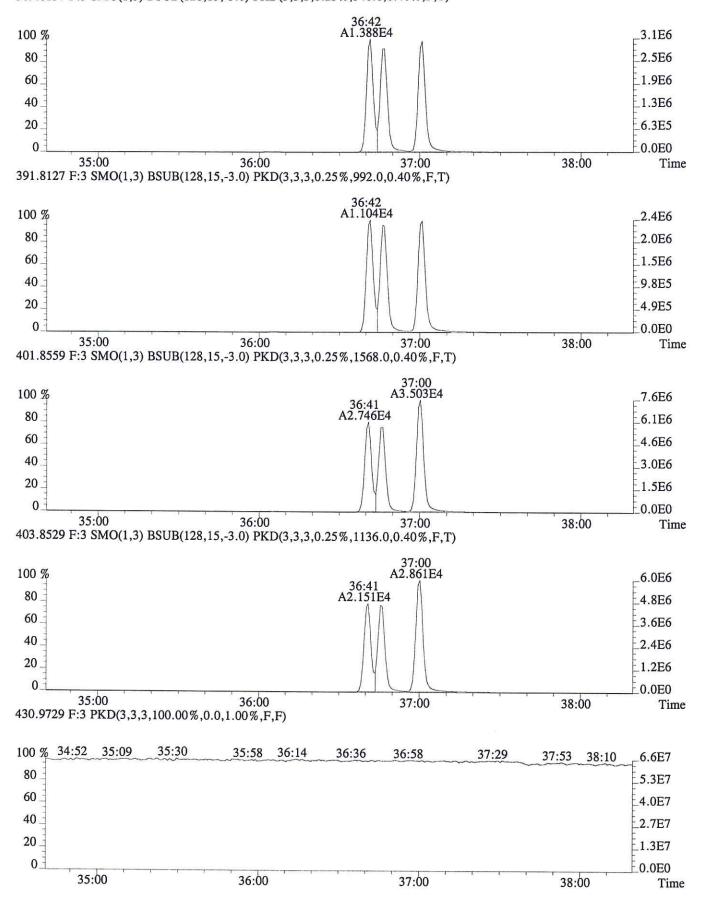
File:P604002 #1-298 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2792.0,1.00%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,T)



File:P604002 #1-329 Acq:26-JUN-2016 03:09:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #8 Filename P604003 Samp: 1 Inj: 1 Acquired: 26-JUN-16 03:58:24 Processed: 1-JUL-16 15:35:43 Sample ID: EQ1600219-03

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:15	2.475e+02	3.295e+02	0.75 yes	no	0.957
3	Unk	2,3,4,7,8-PeCDF	33:19	2.105e+03	1.300e+03	1.62 yes	no	0.929
11	Unk	2,3,7,8-TCDD	29:00	1.781e+02	2.430e+02	0.73 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	2.865e+03	3.441e+03	0.83 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	4.842e+03	3.037e+03	1.59 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	4.611e+03	2.925e+03	1.58 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.533e+03	6.873e+03	0.51 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	*	* no	no	1.324
	IS	13C-2,3,7,8-TCDD	28:59	2.121e+03	2.640e+03	0.80 yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	2.977e+03	3.759e+03	0.79 yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	4.340e+03	3.498e+03	1.24 yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	NotFnd	*		a <u>a</u> <u>-</u>	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. DLCS

Run	#8 Filename P604003	Sam	p: 1 Ir	ıj: 1	Acquired:	26-JUN-16	03:58:24		
Proc	Processed: 1-JUL-16 15:35:43 LAB. ID: EQ1600219-03								
				A LO STATE AND THE STATE OF THE					
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2		
1	2,3,7,8-TCDF	4.11e+04	9.20e+02	4.5e+01	5.51e+04	1.65e+03	3.3e+01		
3	2,3,4,7,8-PeCDF	3.91e+05	9.84e+02	4.0e+02	2.43e+05	1.37e+03	1.8e+02		
11	2,3,7,8-TCDD	3.31e+04	1.12e+03	3.0e+01	4.21e+04	1.22e+03	3.5e+01		
18	13C-2,3,7,8-TCDF	4.66e+05	4.36e+03	1.1e+02	5.65e+05	2.14e+03	2.6e+02		
19	13C-1,2,3,7,8-PeCDF	8.43e+05	9.84e+02	8.6e+02	5.24e+05	1.04e+03	5.1e+02		
20	13C-2,3,4,7,8-PeCDF	8.61e+05	9.84e+02	8.8e+02	5.53e+05	1.04e+03	5.3e+02		
24	13C-1,2,3,7,8,9-HxCDF	6.91e+05	6.84e+02	1.0e+03	1.32e+06	1.64e+03	8.1e+02		
26	13C-1,2,3,4-TCDF	*	4.36e+03	*	*	2.14e+03	*		
27	13C-2,3,7,8-TCDD	3.73e+05	6.87e+03	5.4e+01	4.77e+05	3.12e+03	1.5e+02		
33	13C-1,2,3,4-TCDD	5.41e+05	6.87e+03	7.9e+01	6.72e+05	3.12e+03	2.2e+02		
34	13C-1,2,3,7,8,9-HxCDD	8.67e+05	1.60e+03	5.4e+02	7.17e+05	1.18e+03	6.1e+02		
35	37Cl-2,3,7,8-TCDD	*	1.58e+03	*					

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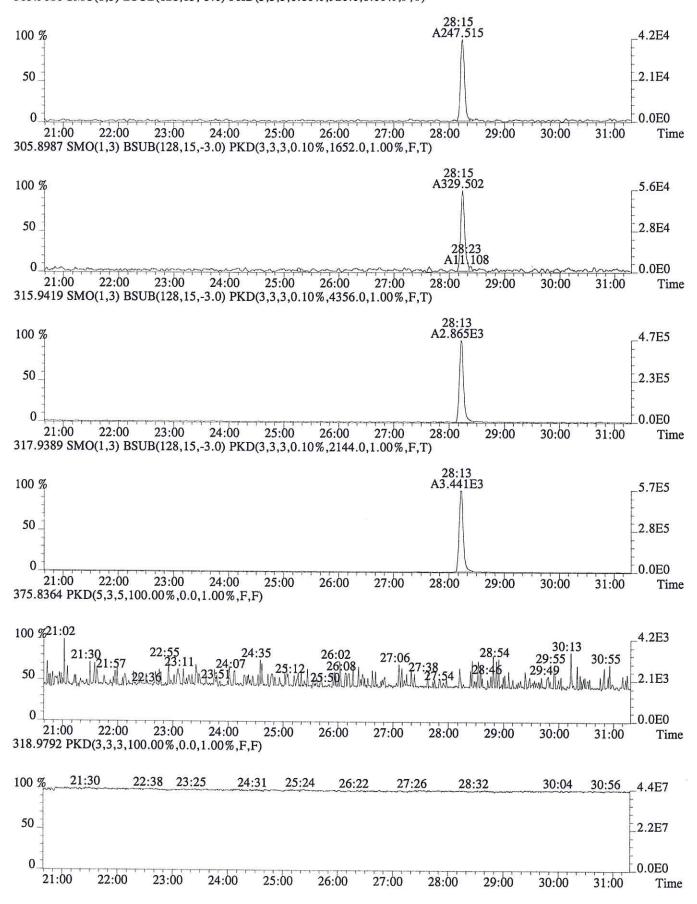
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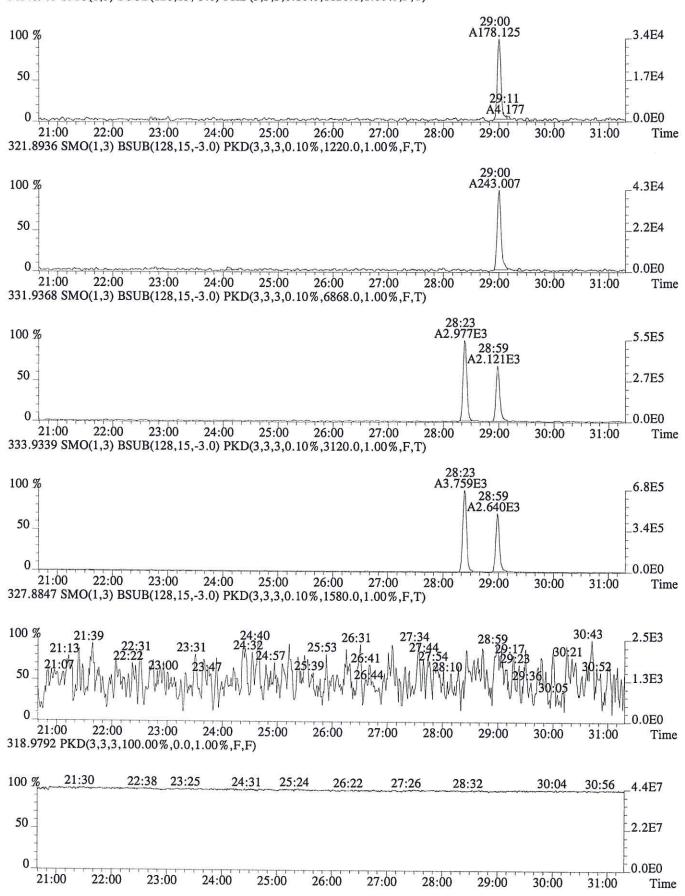
E1600326.R1 164 of 327

File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)

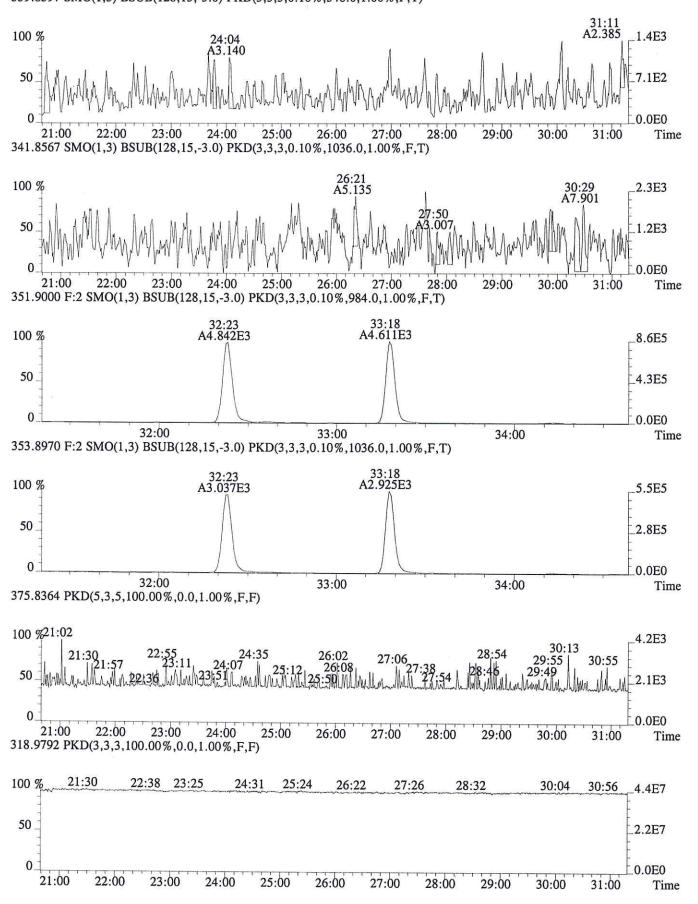


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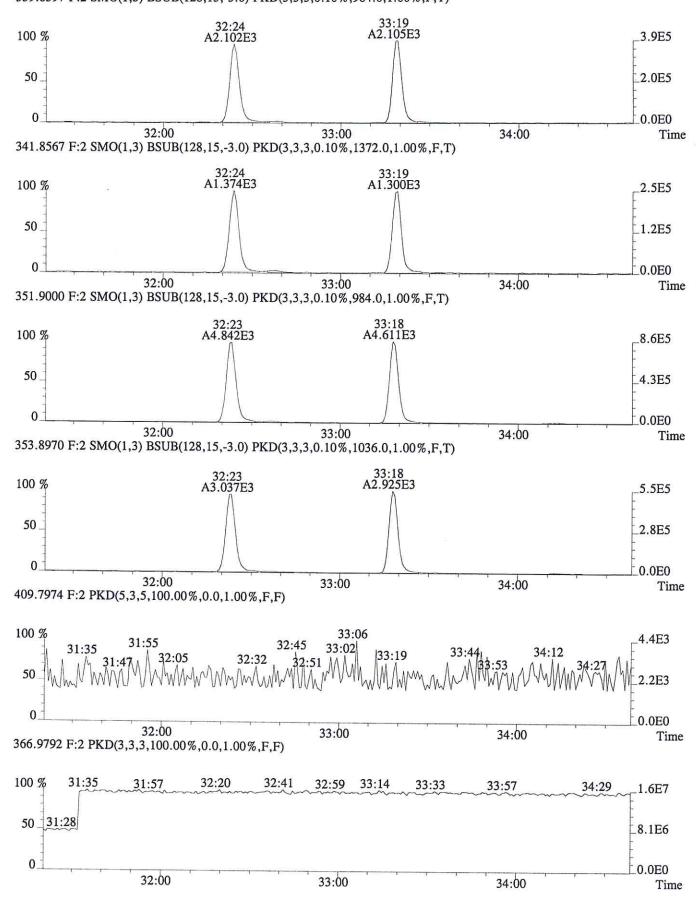
File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,T)



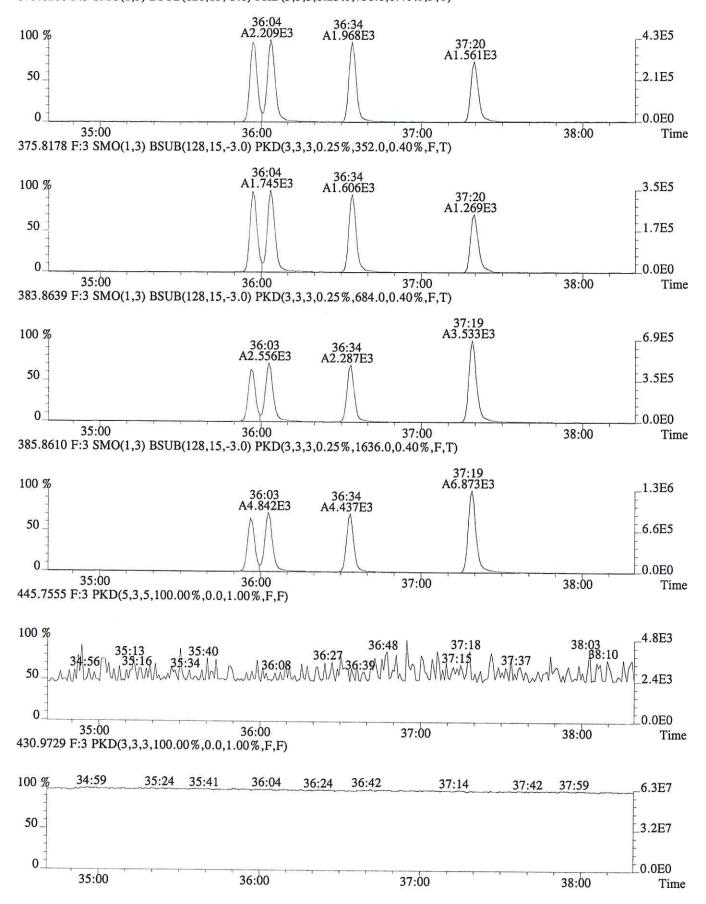
File:P604003 #1-756 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



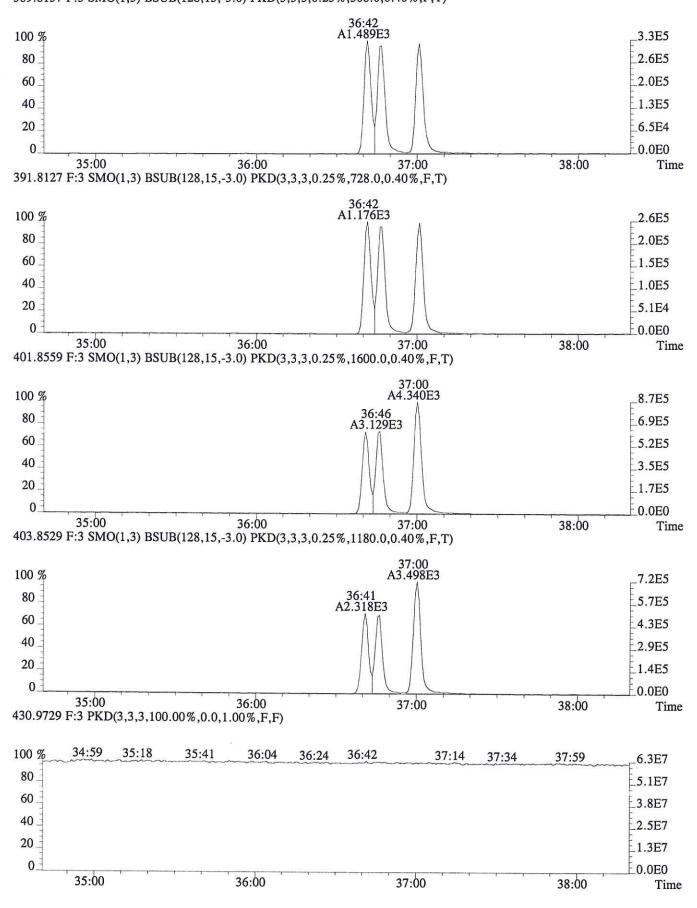
File:P604003 #1-298 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



File:P604003 #1-329 Acq:26-JUN-2016 03:58:24 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P604007 Samp: 1 Inj: 1 Acquired: 26-JUN-16 11:18:23

	Тур	Name	RT-1	Resp 1		Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	1	*	*	no	no	0.957
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	· [*	*	no	no	0.929
11	Unk	2,3,7,8-TCDD	NotFnd	*	:	*	*	no	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:11	1.329e+04	. j	1.716e+04	0.77	yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:22	2.047e+04	i j	1.287e+04	1.59	yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	NotFnd	*	· [*	*	no	yes	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	1.345e+04	i į	2.657e+04	0.51	yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	NotFnd	*	· j	*	*	no	no	1.325
									•	
27	IS	13C-2,3,7,8-TCDD	28:57	1.038e+04	.	1.293e+04	0.80	yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:21	4.021e+04	i j	5.113e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:59	4.228e+04	ı İ	3.388e+04	1.25	yes	no	j -
35	C/Up	37Cl-2,3,7,8-TCDD	28:59	6.083e+01			5 0	•0.00	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID. METHOD BLANK

Run #7 Filename P604007 Samp: 1 Inj: 1 Acquired: 26-JUN-16 11:18:23

Processed: 7-JUL-16 08:59:10 LAB. ID: EQ1600220-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	*	1.06e+03	*	*	2.13e+03	*
3	2,3,4,7,8-PeCDF	*	8.60e+02	*	*	1.76e+03	*
11	2,3,7,8-TCDD	*	1.41e+03	*	*	1.39e+03	*
18	13C-2,3,7,8-TCDF	2.40e+06	5.04e+03	4.8e+02	3.12e+06	2.59e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	3.77e+06	6.60e+02	5.7e+03	2.36e+06	3.50e+03	6.8e+02
20	13C-2,3,4,7,8-PeCDF	*	6.60e+02	*	*	3.50e+03	*
24	13C-1,2,3,7,8,9-HxCDF	2.64e+06	9.60e+02	2.8e+03	5.21e+06	1.50e+03	3.5e+03
26	13C-1,2,3,4-TCDF	*	5.04e+03	*	*	2.59e+03	*
				•		•	
27	13C-2,3,7,8-TCDD	1.94e+06	5.98e+03	3.2e+02	2.47e+06	4.64e+03	5.3e+02
33	13C-1,2,3,4-TCDD	7.64e+06	5.98e+03	1.3e+03	9.71e+06	4.64e+03	2.1e+03
34	13C-1,2,3,7,8,9-HxCDD	8.63e+06	4.02e+03	2.1e+03	6.98e+06	2.29e+03	3.0e+03
35	37Cl-2,3,7,8-TCDD	1.20e+04	1.36e+03	8.8e+00			

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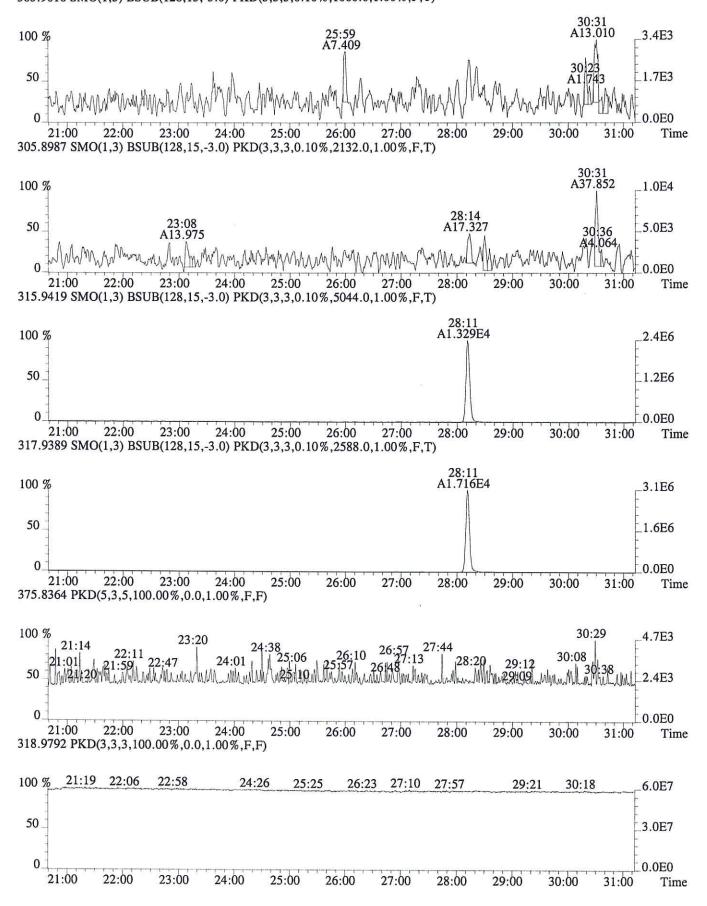
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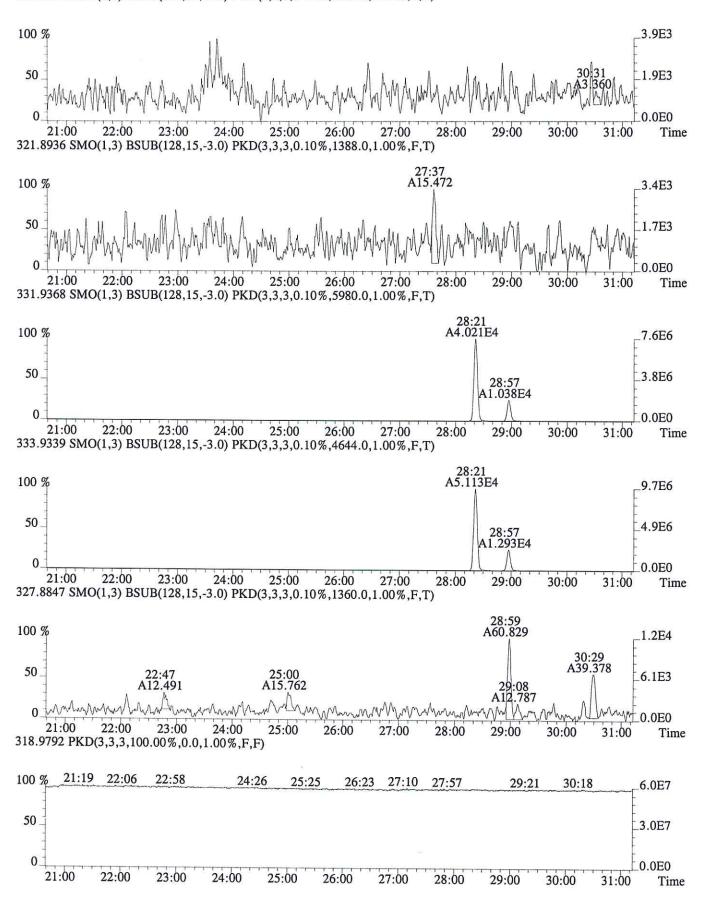
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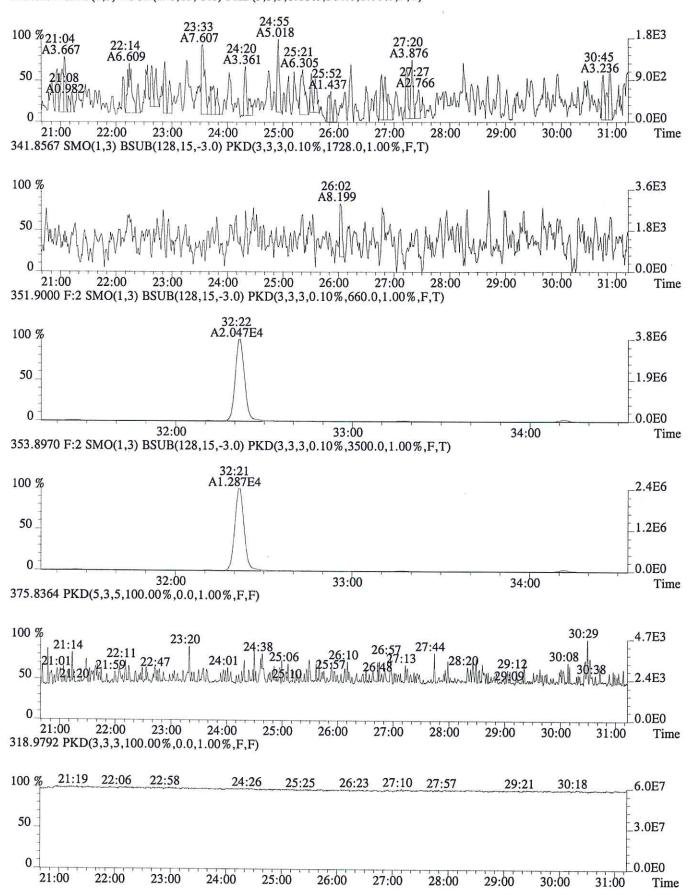
File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



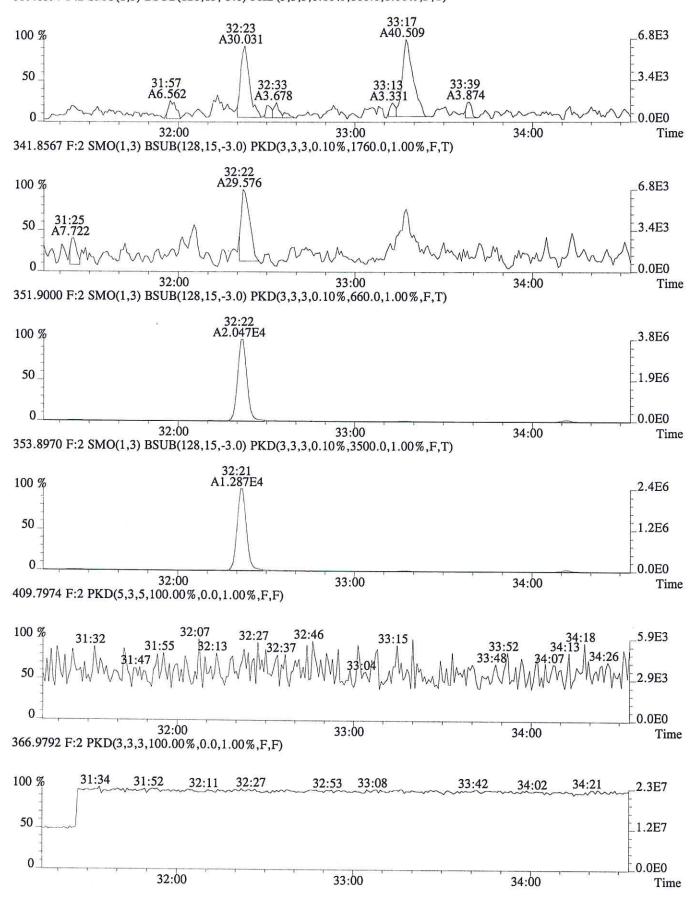
File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



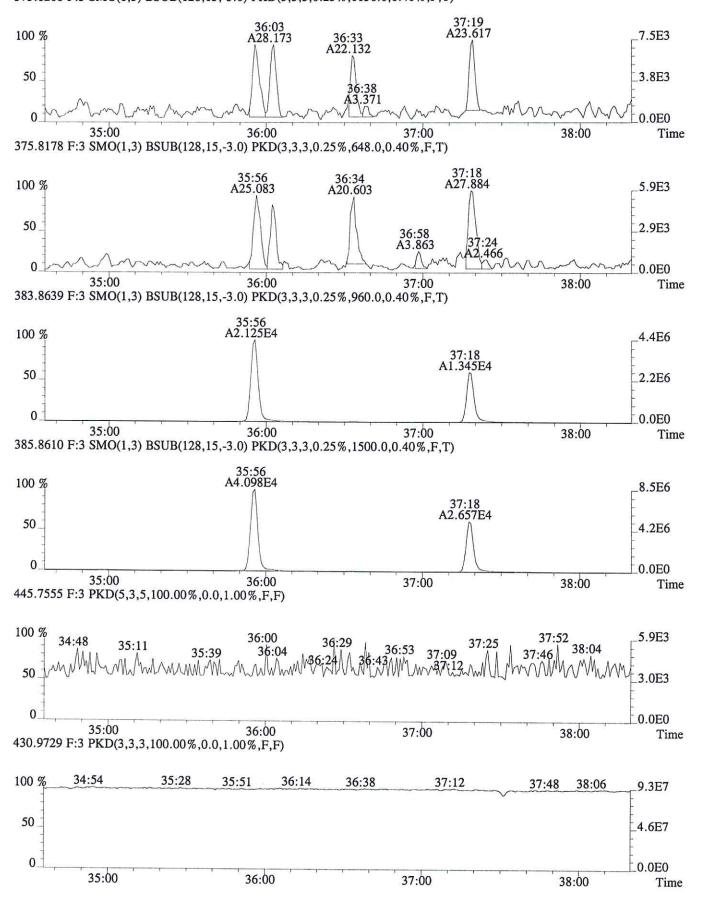
File:P604007 #1-749 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



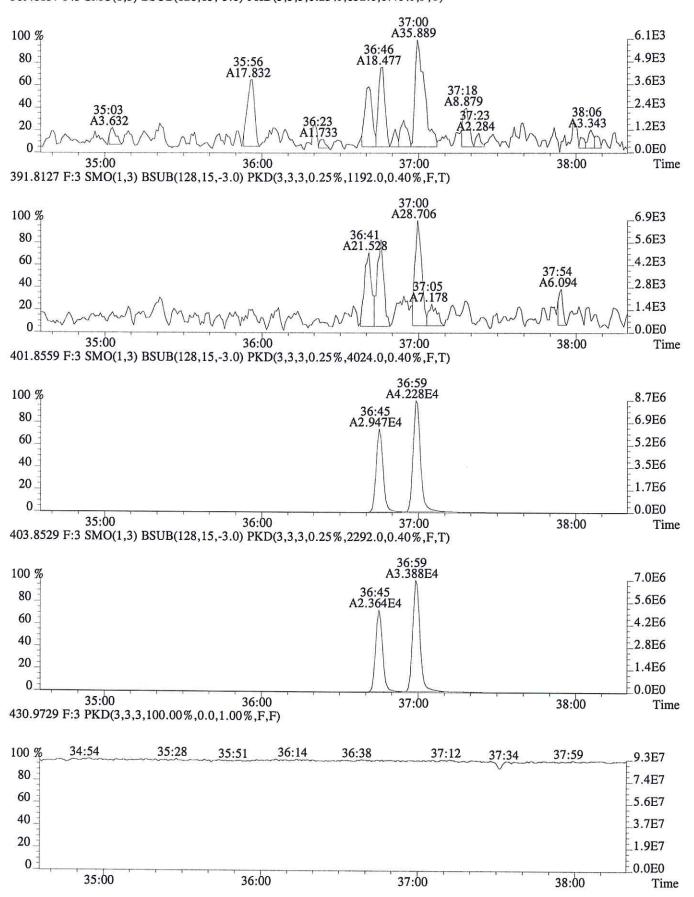
File:P604007 #1-299 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



File:P604007 #1-337 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)



File:P604007 #1-337 Acq:26-JUN-2016 11:18:23 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:MB 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #10 Filename P604016 Samp: 1 Inj: 1 Acquired: 26-JUN-16 18:59:32 Processed: 7-JUL-16 08:59:11 Sample ID: EQ1600220-02

тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1 Unk 3 Unk 11 Unk 18 IS 19 IS 20 IS 24 IS 26 IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:18 28:58 28:11 32:21 NotFnd 37:18	2.611e+03 2.259e+04 2.329e+03 1.443e+04 2.436e+04 * 1.849e+04	3.524e+03 1.466e+04 2.902e+03 1.841e+04 1.556e+04 *	0.74 yes 1.54 yes 0.80 yes 0.78 yes 1.57 yes * no 0.52 yes * no	no no no no no no yes no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
27 IS 33 RS/RT 34 RS/RT 35 C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:57 28:21 36:59	1.086e+04 3.800e+04 4.476e+04 1.319e+02	1.379e+04 4.825e+04 3.553e+04	0.79 yes 0.79 yes 1.26 yes	no no no no	0.929 - - 0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. LCS

Run	#10 Filename P604016	Sam	p: 1 Ir	ıj: 1	Acquired:	26-JUN-16	18:59:32
Proc	Processed: 7-JUL-16 08:59:11 LAB. ID: EQ1600220-02						
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	4.73e+05	1.26e+03	3.8e+02	6.35e+05	2.66e+03	2.4e+02
3	2,3,4,7,8-PeCDF	4.39e+06	1.77e+03	2.5e+03	2.88e+06	9.32e+02	3.1e+03
11	2,3,7,8-TCDD	4.31e+05	1.52e+03	2.8e+02	5.38e+05	1.20e+03	4.5e+02
18	13C-2,3,7,8-TCDF	2.67e+06	5.78e+03	4.6e+02	3.39e+06	3.48e+03	9.7e+02
19	13C-1,2,3,7,8-PeCDF	4.63e+06	1.86e+03	2.5e+03	2.96e+06	1.70e+03	1.7e+03
20	13C-2,3,4,7,8-PeCDF	*	1.86e+03	*	*	1.70e+03	*
24	13C-1,2,3,7,8,9-HxCDF	3.84e+06	1.06e+03	3.6e+03	7.49e+06	2.02e+03	3.7e+03
26	13C-1,2,3,4-TCDF	*	5.78e+03	*	*	3.48e+03	*
					•		
27	13C-2,3,7,8-TCDD	2.13e+06	8.33e+03	2.6e+02	2.69e+06	3.92e+03	6.9e+02
33	13C-1,2,3,4-TCDD	7.36e+06	8.33e+03	8.8e+02	9.30e+06	3.92e+03	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	9.74e+06	1.88e+03	5.2e+03	7.82e+06	1.24e+03	6.3e+03
35	37Cl-2,3,7,8-TCDD	2.45e+04	1.99e+03	1.2e+01			

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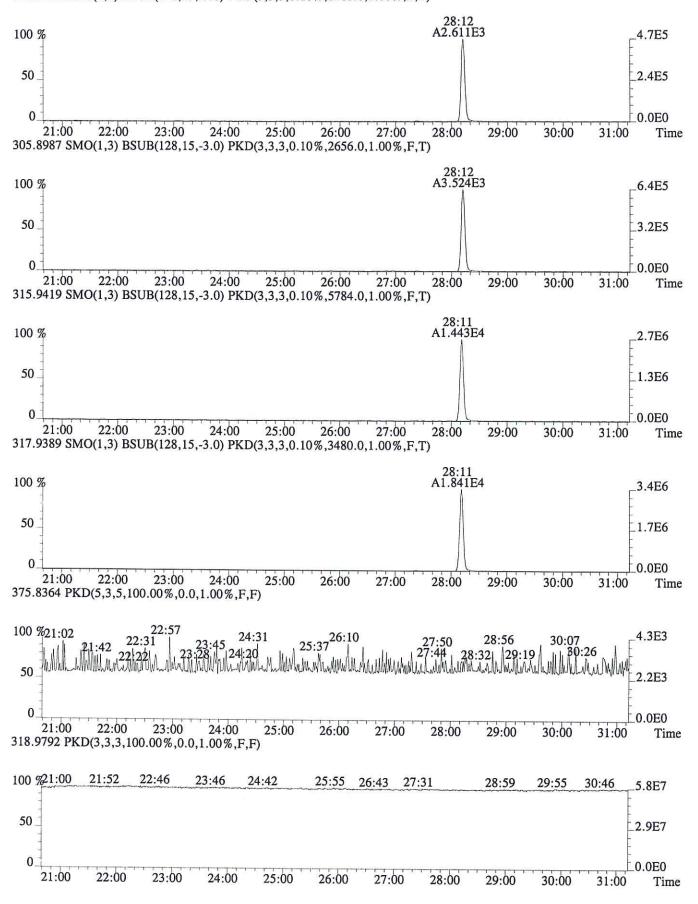
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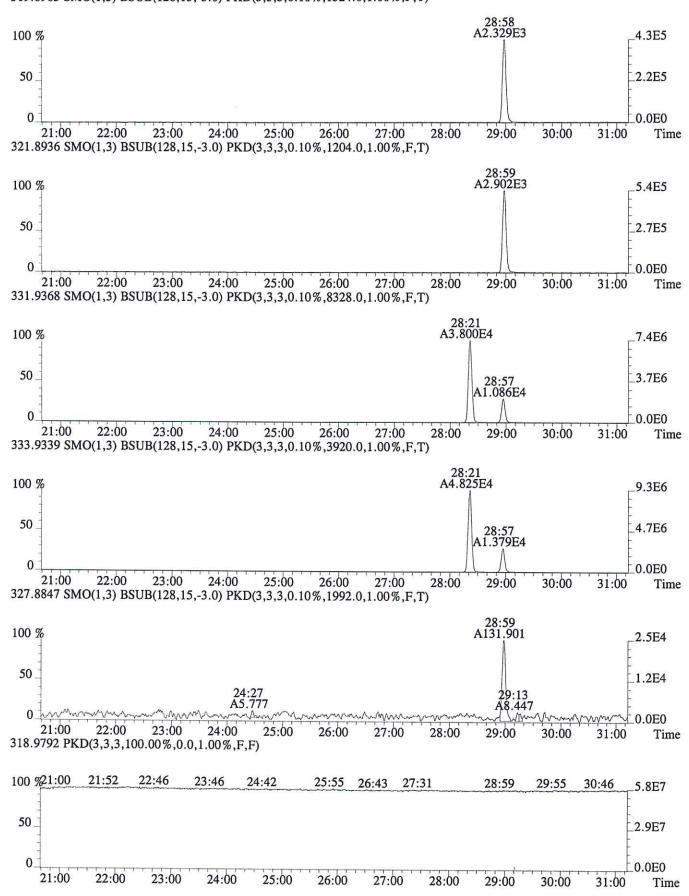
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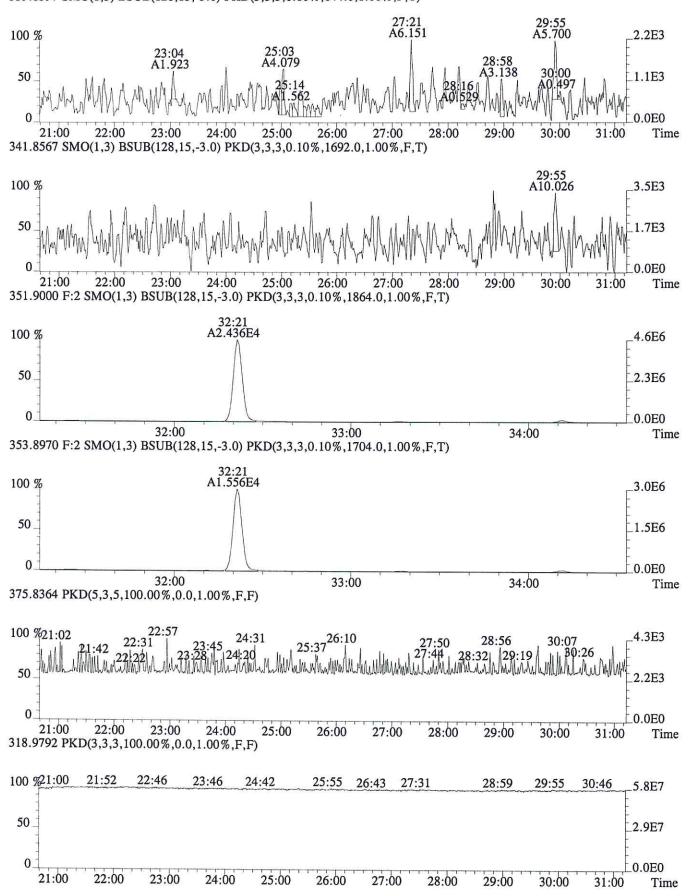
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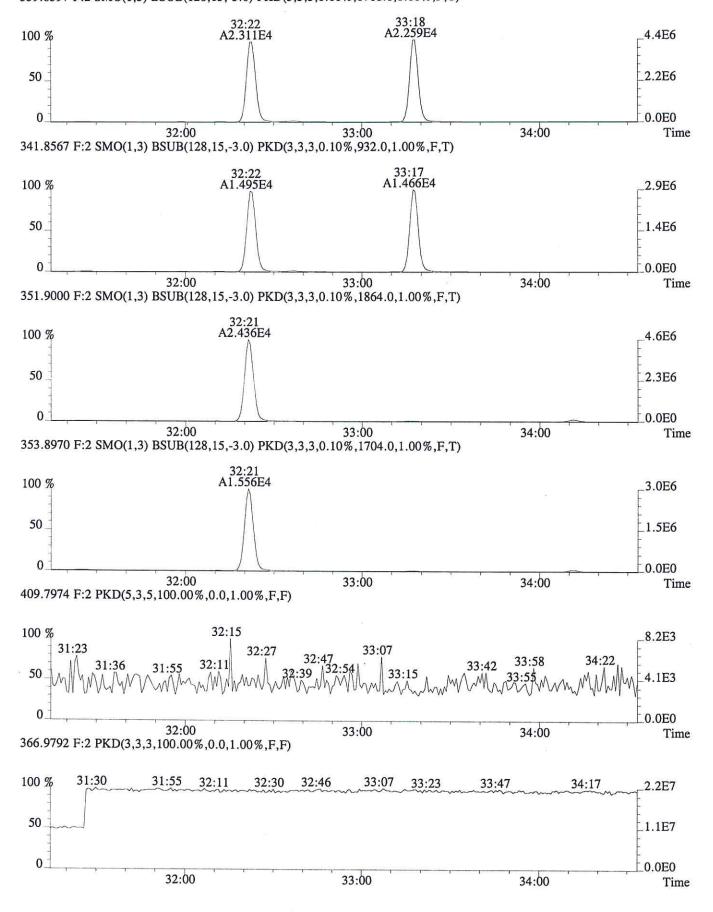
File:P604016 #1-749 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



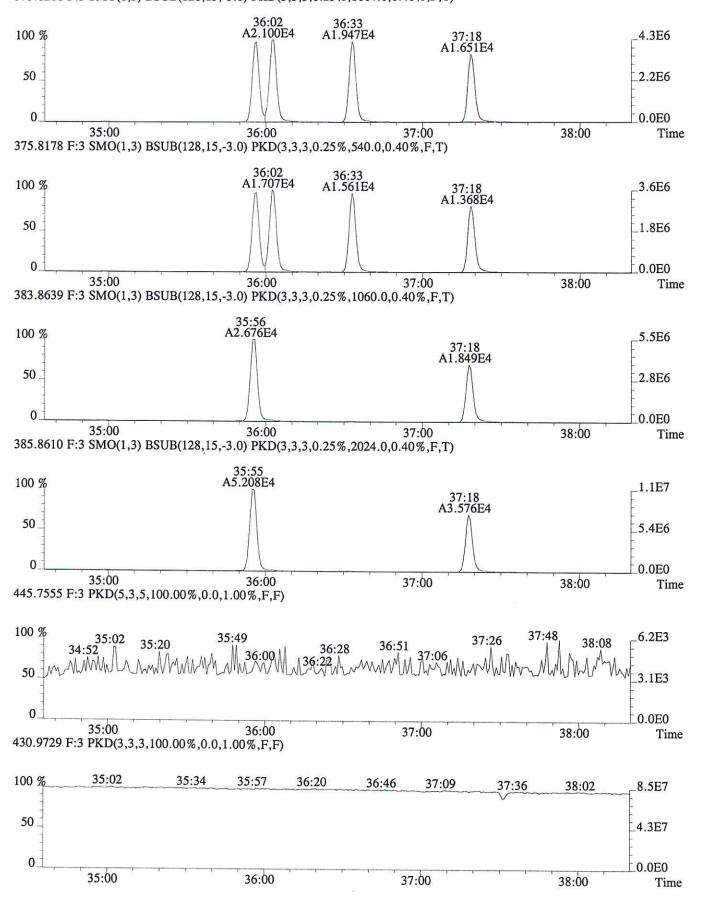
File:P604016 #1-749 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



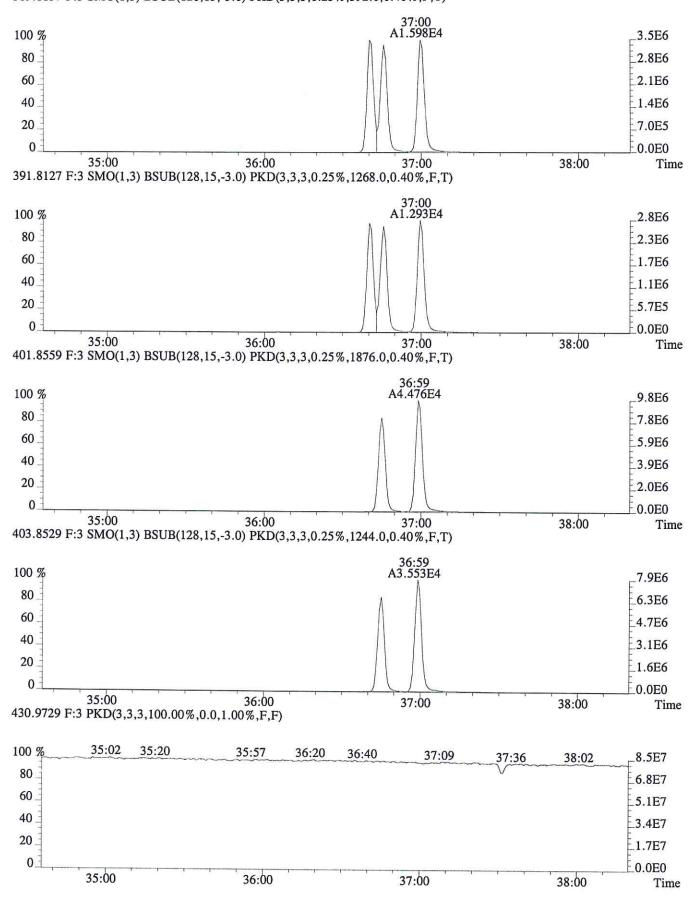
File:P604016 #1-299 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1768.0,1.00%,F,T)



File:P604016 #1-337 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



File:P604016 #1-337 Acq:26-JUN-2016 18:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:LCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,592.0,0.40%,F,T)



ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID.

Run #11 Filename P604017 Samp: 1 Inj: 1 Acquired: 26-JUN-16 19:48:33 Processed: 7-JUL-16 08:59:12 Sample ID: EQ1600220-03

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18 19 20 24	Unk Unk IS IS IS IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:18 28:59 28:11 32:22 NotFnd 37:18	3.963e+02 3.387e+03 3.177e+02 1.977e+03 3.624e+03 * 3.227e+03	5.017e+02 2.195e+03 4.162e+02 2.589e+03 2.342e+03 * 6.436e+03	0.79 yes 1.54 yes 0.76 yes 0.76 yes 1.55 yes * no 0.50 yes * no	no no no no no no yes no no	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:22 36:59	1.569e+03 5.153e+03 8.149e+03 2.189e+01	1.956e+03 6.578e+03 6.718e+03	0.80 yes 0.78 yes 1.21 yes	no no no no	0.929 - - 0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. DLCS

Run	#11 Filename P604017	Sam	p: 1 Ir	ıj: 1	Acquired:	26-JUN-16	19:48:33
Proc	Processed: 7-JUL-16 08:59:12 LAB. ID: E01600220-03						
				~			
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
		5					
1	2,3,7,8-TCDF	7.50e+04	1.12e+03	6.7e+01	8.46e+04	3.27e+03	2.6e+01
3	2,3,4,7,8-PeCDF	6.91e+05	1.37e+03	5.0e+02	4.33e+05	2.52e+03	1.7e+02
11	2,3,7,8-TCDD	6.27e+04	1.65e+03	3.8e+01	8.14e+04	9.20e+02	8.8e+01
18	13C-2,3,7,8-TCDF	3.53e+05	6.04e+03	5.9e+01	4.52e+05	3.39e+03	1.3e+02
19	13C-1,2,3,7,8-PeCDF	6.76e+05	6.60e+02	1.0e+03	4.38e+05	1.31e+03	3.3e + 02
20	13C-2,3,4,7,8-PeCDF	*	6.60e+02	*	*	1.31e+03	*
24	13C-1,2,3,7,8,9-HxCDF	6.75e+05	8.04e+02	8.4e+02	1.36e+06	1.62e+03	8.4e+02
26	13C-1,2,3,4-TCDF	*	6.04e+03	*	*	3.39e+03	*
27	13C-2,3,7,8-TCDD	2.88e+05	8.47e+03	3.4e+01	3.59e+05	3.44e+03	1.0e+02
33	13C-1,2,3,4-TCDD	9.77e+05	8.47e+03	1.2e+02	1.22e+06	3.44e+03	3.6e+02
34	13C-1,2,3,7,8,9-HxCDD	1.74e+06	1.77e+03	9.8e+02	1.42e+06	1.75e+03	8.1e+02
35	37Cl-2,3,7,8-TCDD	4.59e+03	2.03e+03	2.3e+00			

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

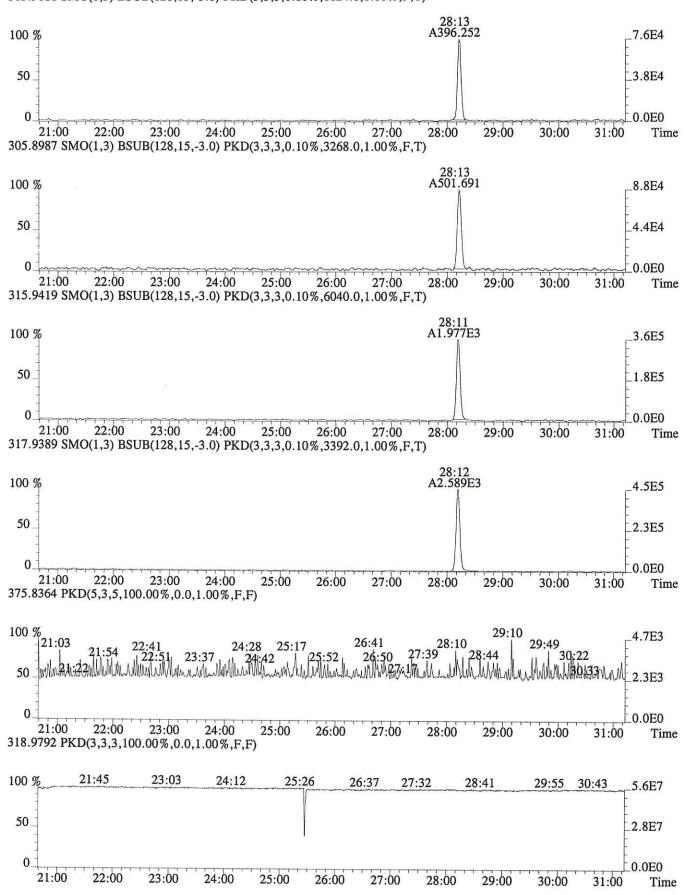
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

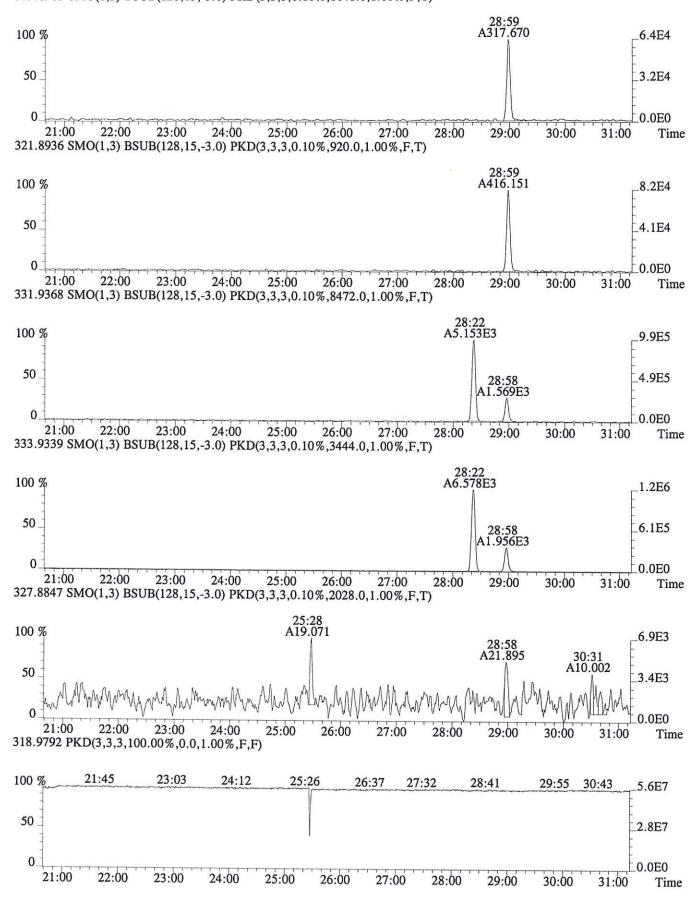
www.alsglobal.com

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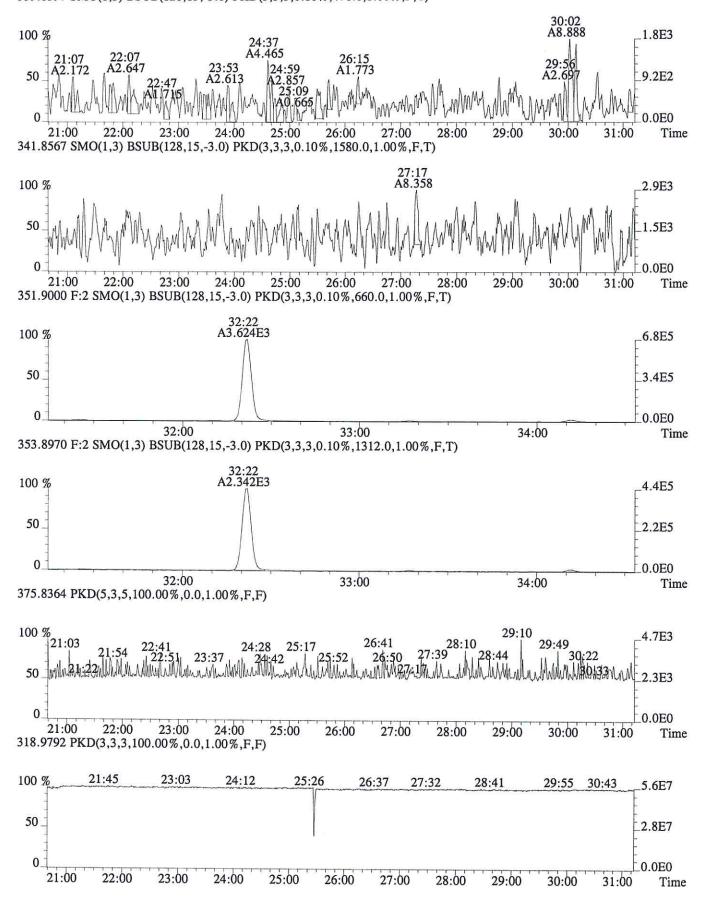
File:P604017 #1-749 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



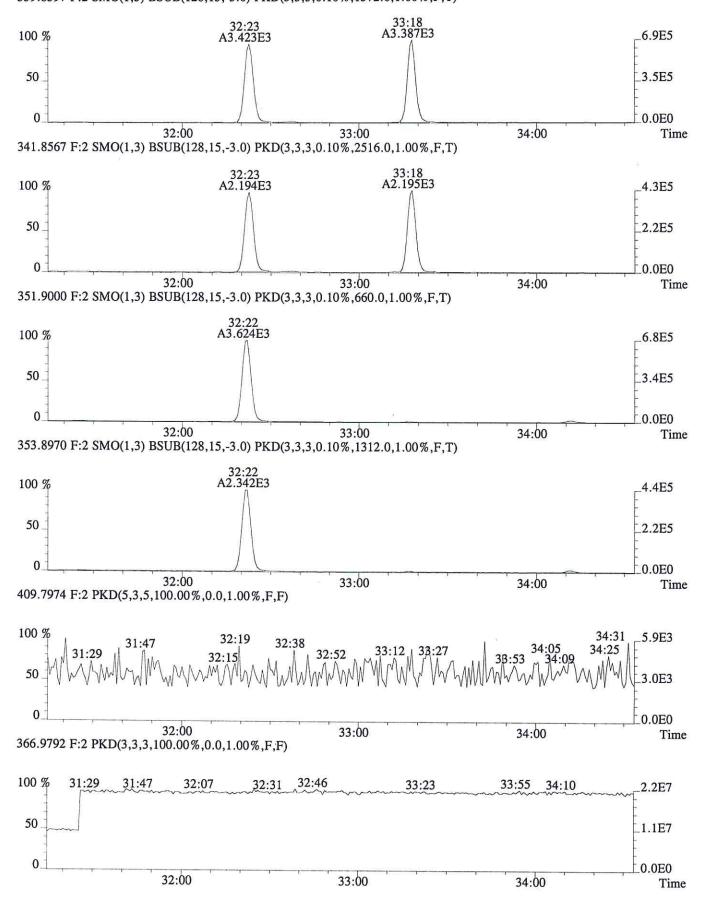
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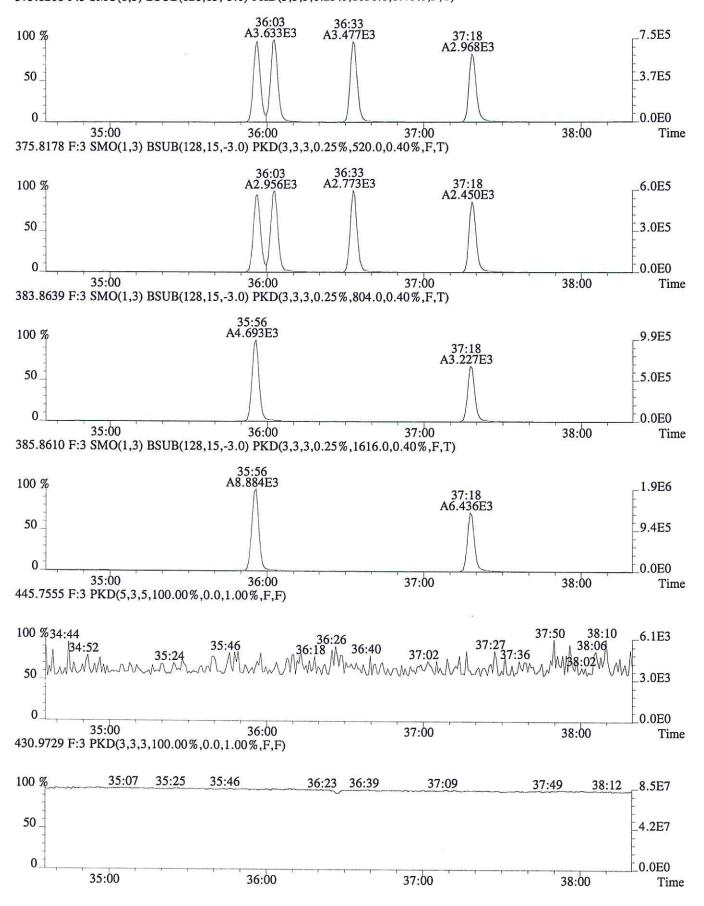
File:P604017 #1-749 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,T)



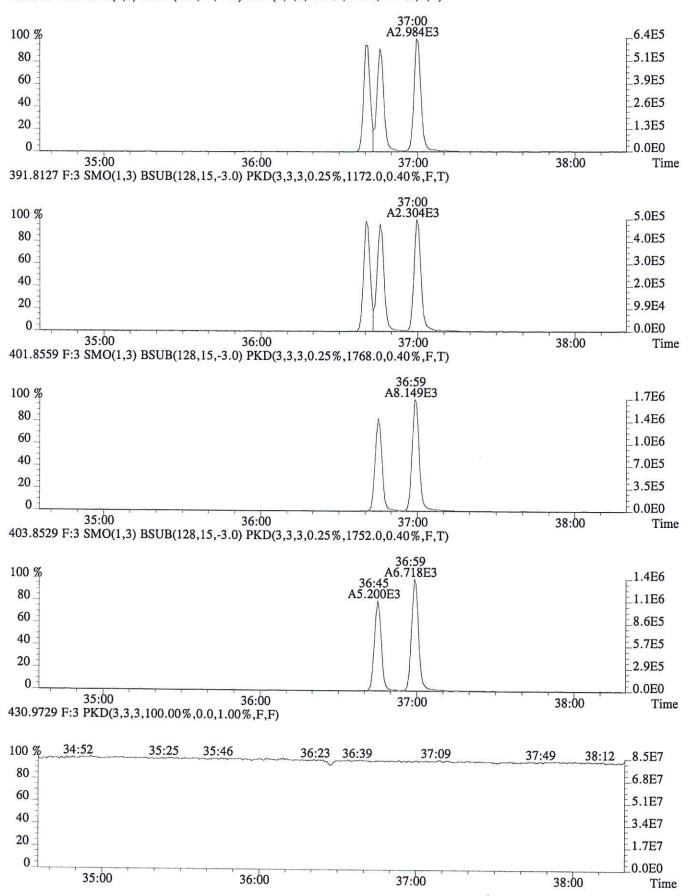
File:P604017 #1-299 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,T)



File:P604017 #1-337 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,T)



File:P604017 #1-337 Acq:26-JUN-2016 19:48:33 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:DLCS 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)





Continuing Calibration

ALS Environmental - Houston HRMS 10450 Stancliff Rd., Suite 210, Houston, TX 77099 Phone (713)266-1599 Fax (713)266-0130 www.alsglobal.com

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CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P603991 Date: 6PME) 0625116-062011	Beginning Circle or	ne: Ending
Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD O		f / 8280 / M23 / TO-9A
Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled		/
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters		
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)		**
CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria		
All relative abundance ratios meet method criteria	V	/
No QC ion deflections of greater than 20% (HRMS Only)		
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)		
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column		
Signal-to-noise of all target analytes and their labeled standards at least 10:1		
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	OA	NA
Ending Calibration injected prior to end of 12 hour clock	NA	NA
Analyst:ccalqc.xls 07/17/12	Second QC:	KL

E1600326.R1 196 of 327

USEPA - CLP

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL

Contract:

Lab Code:

Case No.: Client No.: SDG No.:

Page 1 of

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib.Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

No. of the last of	25-31/74 34 SV	The Course of		
EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
===============	=======================================	========	=======================================	
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
BAD INJECTION	EQ1600219-01*	P603992	25-JUN-16	18:59:09
METHOD BLANK	EQ1600219-01	P603993	25-JUN-16	19:48:09
04052016SJPW10	E1600282-006	P603994	25-JUN-16	20:37:12
03162016SJGW1	E1600326-001	P603995	25-JUN-16	21:26:14
04072016SJGW1	E1600326-002	P603996	25-JUN-16	22:15:14
04072016SJGW2	E1600326-003	P603997	25-JUN-16	23:04:16
04072016SJGW10	E1600326-004	P603998	25-JUN-16	23:53:17
04072016SJGW11	E1600326-005	P603999	26-JUN-16	00:42:18
04072016SJGW12	E1600326-006	P604000	26-JUN-16	01:31:21
04072016SJGW13	E1600326-007	P604001	26-JUN-16	02:20:22

FORM V-HR CDD-3

DLM02.0(5/05)

197 of 327 E1600326.R1

Page 1 of USEPA - CLP

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	============	=========	.==========	========
87077	WINDOW DEFINE	P603990	25-JUN-16	17:21:07
173638	CS3	P603991	25-JUN-16	18:10:07
LCS	EQ1600219-02	P604002	26-JUN-16	03:09:23
DLCS	EQ1600219-03	P604003	26-JUN-16	03:58:24

FORM V-HR CDD-3

DLM02.0(5/05)

Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List:

C:\MassLynx\EHRMS08.PRO\SampleDB\20160625B.SPL

Last Modified:

Friday, July 01, 2016 08:52:16 Eastern Daylight Time

Printed:

Friday, July 01, 2016 08:52:25 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

opus4: P603991 res; P603991 res2

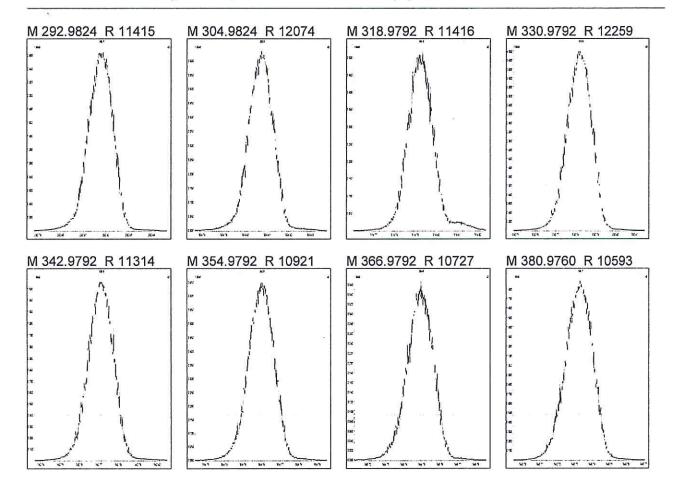
	V-2									
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	06/25/16	17:21	P603990	87077	WINDOW DEFINE	Tray1:1	EPA1613 ALS	Dioxin ALS	LKL	HRMS check 16:28
2		18:10	P603991	173638	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		19:59	P603992	EQ1600219-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		Bad injection
4		19:48	P603993	EQ1600219-01	MB	Tray1:4	EPA1613 ALS	Dioxin ALS		
5		20:37	P603994	E1600282-006	E1600282-006	Tray1:5	EPA1613 ALS	Dioxin ALS		
6		21:26	P603995	E1600326-001	E1600326-001	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		22:15	P603996	E1600326-002	E1600326-002	Tray1:7	EPA1613 ALS	Dioxin_ALS	-	
8		23:04	P603997	E1600326-003	E1600326-003	Tray1:8	EPA1613 ALS	Dioxin ALS		
9	·V ,	2353	P603998	E1600326-004	E1600326-004	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10	06/26/16	00:42	P603999	E1600326-005	E1600326-005	Tray1:10	EPA1613_ALS	Dioxin_ALS		
11		01:31	P604000	E1600326-006	E1600326-006	Tray1:11	EPA1613_ALS	Dioxin ALS		
12		02:20	P604001	E1600326-007	E1600326-007	Tray1:12		Dioxin_ALS		
13		03109	P604002	EQ1600219-02	LCS	Tray1:13		Dioxin_ALS		
14		03:09	P604003	EQ1600219-03	DLCS	Tray1:14		Dioxin_ALS		
15	1	04:55	P604004	173638	CS3	Tray1:15		Dioxin_ALS	1/	HRMS check 58121
16							EPA1613_ALS	Dioxin_ALS		
17						Tray1:17		Dioxin_ALS		-
18						Tray1:18		Dioxin_ALS		
19						Tray1:19		Dioxin_ALS		
20							EPA1613 ALS	Dioxin ALS		
21						Tray1:21		Dioxin_ALS		
22			\(\cappa\)			Tray1:22		Dioxin_ALS		
23				1 ,		Tray1:23	EPA1613 ALS	Dioxin_ALS		garden, commenter and a second
24			1 X	_ <i>)</i>			EPA1613 ALS	Dioxin_ALS		
25	-		0	_ , ,		Tray1:25	EPA1613_ALS	Dioxin_ALS		
26			- 7	0		Tray1:26	EPA1613_ALS	Dioxin_ALS		
27			11	TIMINI	^	Tray1:27	EPA1613_ALS	Dioxin ALS		
28	CHEMIC TO THE CONTROL OF THE CONTROL		V (4/1U/MV	<u>) </u>	Tray1:28	EPA1613_ALS	Dioxin_ALS		
29				51121114		Tray1:29	EPA1613_ALS	Dioxin_ALS		1 Miles
30						Tray1:30		Dioxin_ALS		
31						Tray1:31		Dioxin_ALS		
32							EPA1613 ALS	Dioxin_ALS		
33						Tray1:33	EPA1613_ALS	Dioxin_ALS		and the second s
34		-				Tray1:34		Dioxin_ALS		
35						Tray1:35	EPA1613_ALS	Dioxin_ALS		
36	-					Tray1:36	EPA1613_ALS	Dioxin_ALS		
37						Tray1:37	EPA1613_ALS	Dioxin_ALS	1000000	course .
38			· · · · · · · · · · · · · · · · · · ·			Tray1:38	EPA1613 ALS	Dioxin ALS		
39						Tray1:39		Dioxin_ALS		
								2.0// 1.00		

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Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time



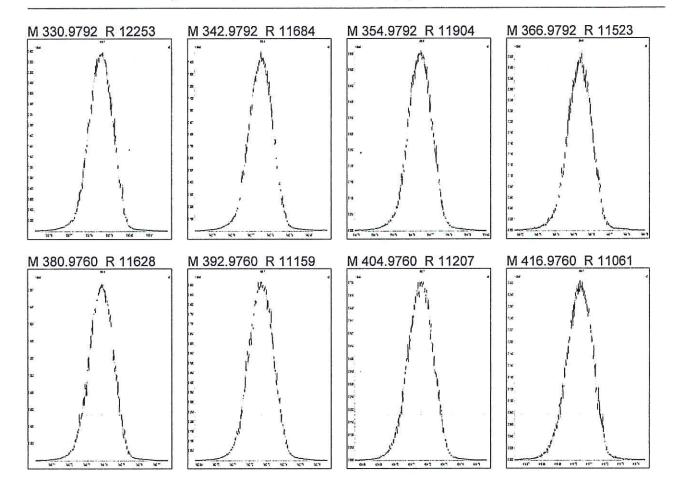
E1600326.R1 200 of 327

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Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



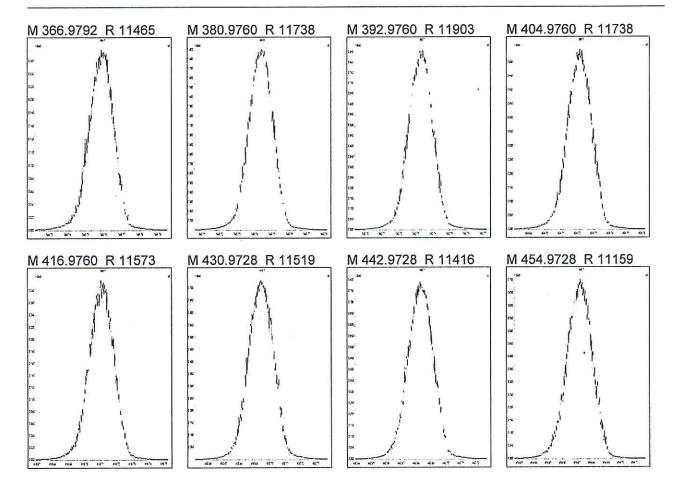
E1600326.R1 201 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



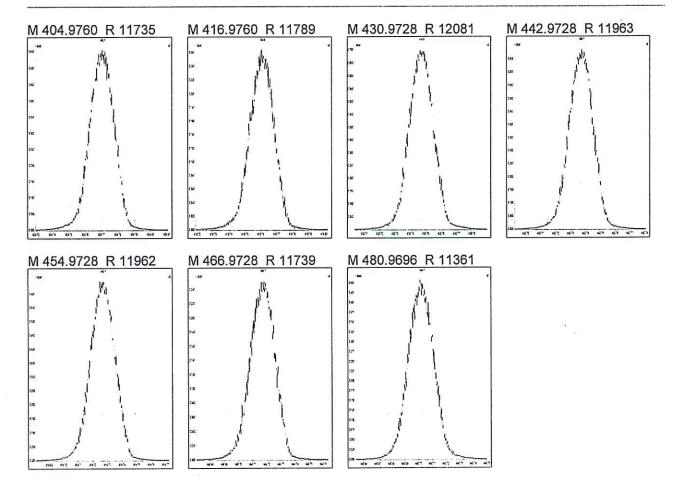
E1600326.R1 202 of 327

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:32:13 Eastern Daylight Time



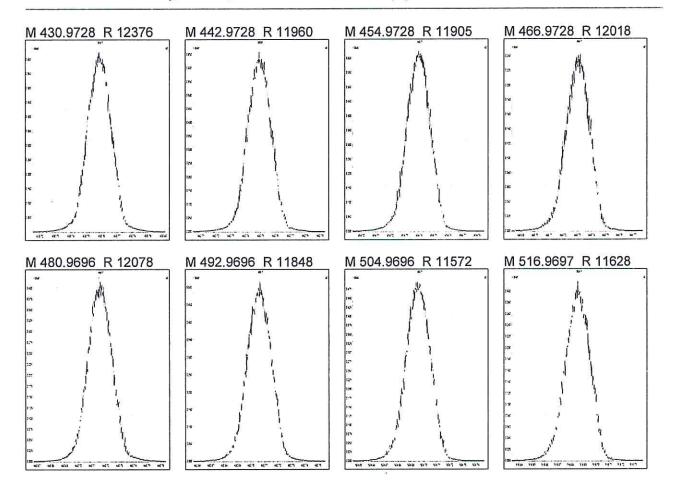
E1600326.R1 203 of 327

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Printed:

Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



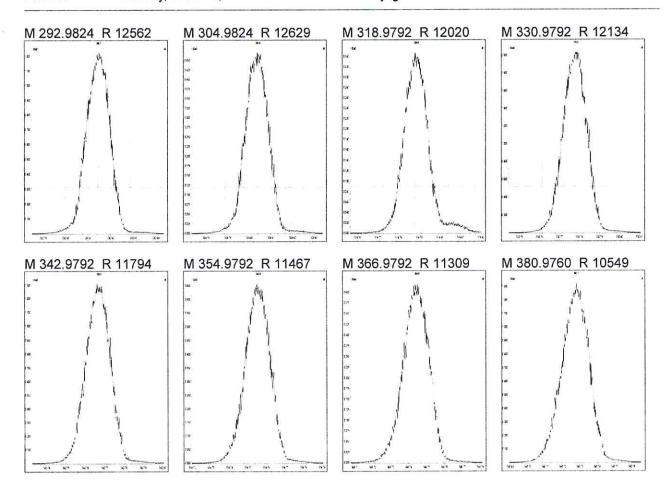
E1600326.R1 204 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:21:50 Eastern Daylight Time



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Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

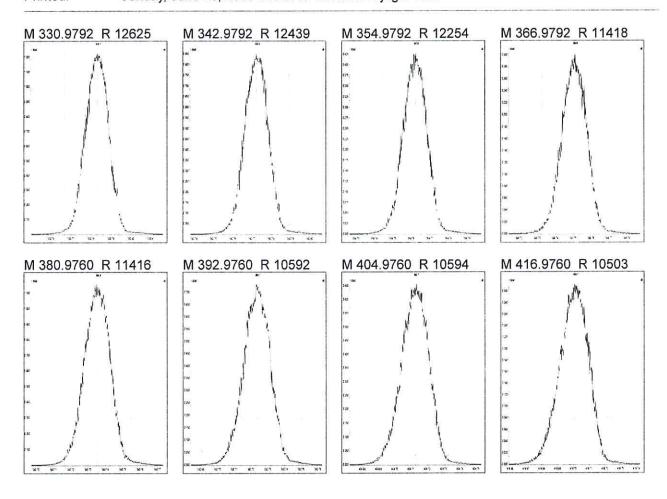
Page 1 of 1

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Printed:

Sunday, June 26, 2016 08:23:16 Eastern Daylight Time



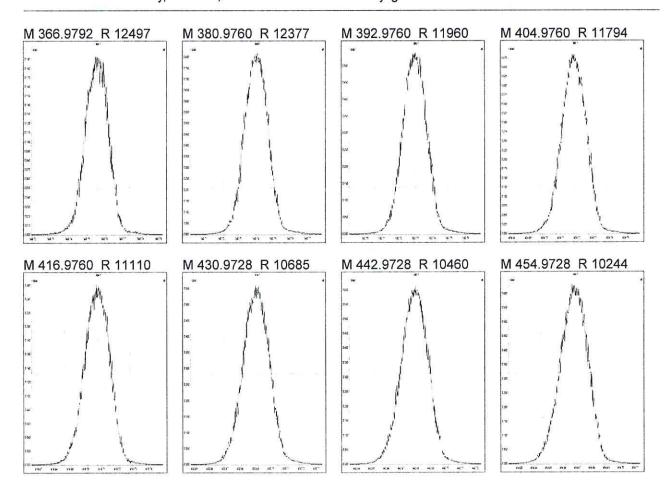
E1600326.R1 206 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:24:38 Eastern Daylight Time



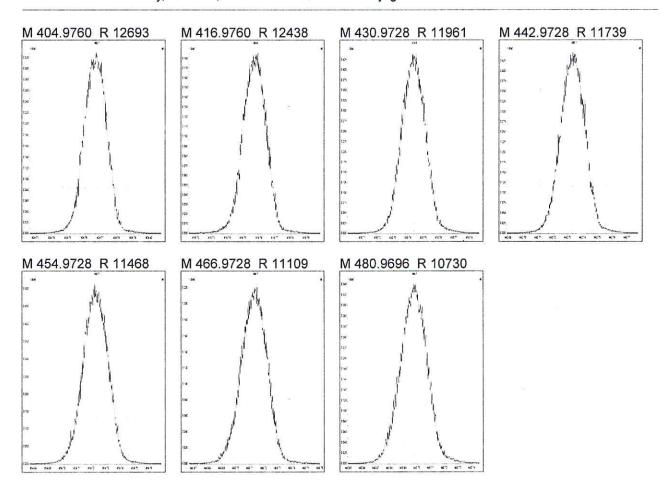
E1600326.R1 207 of 327

File:

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Printed:

Sunday, June 26, 2016 08:25:52 Eastern Daylight Time



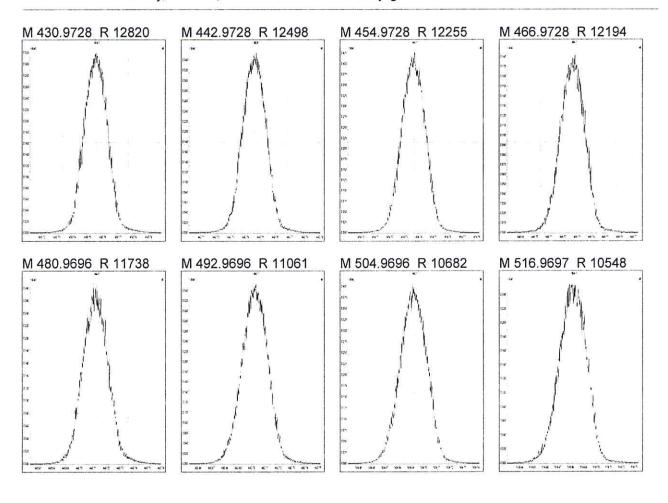
E1600326.R1

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:27:02 Eastern Daylight Time



E1600326.R1 209 of 327

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT	ID:
WDM	

Lab Name: ALS Environmental Lab Code: ALSTX

GC Column: DB-5MSUI

ID: 0.25 (mm)

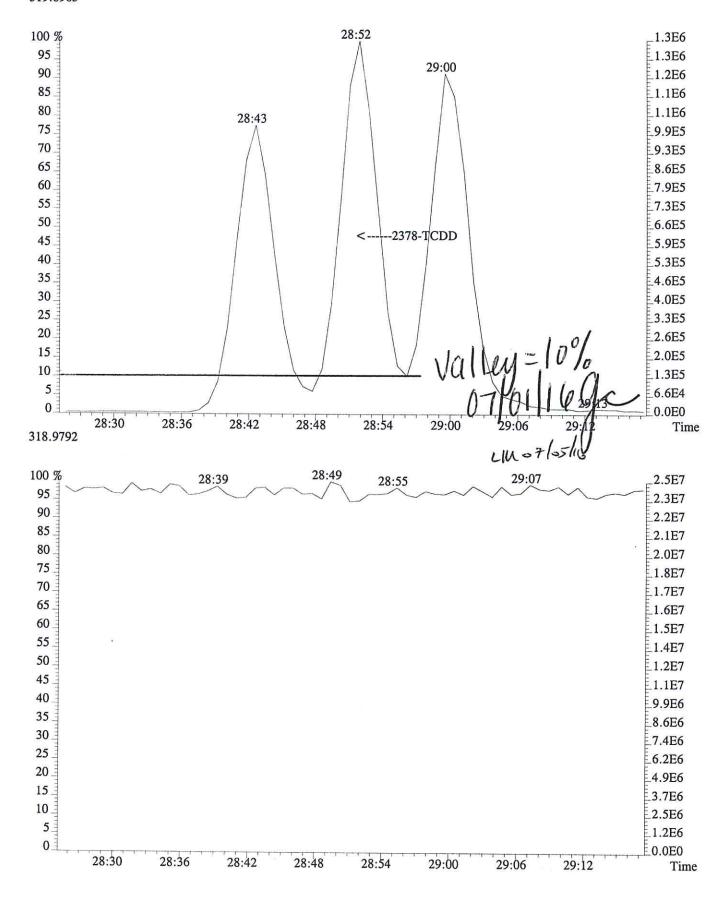
____ SDG No.: Lab File ID: P603990

Date Analyzed: 25-JUN-2016

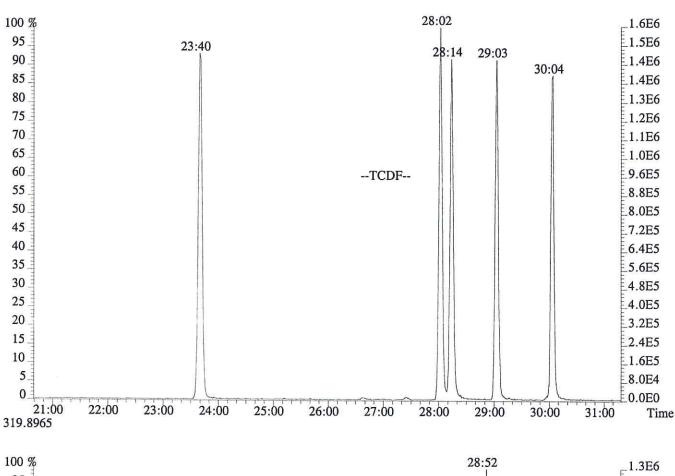
Time Analyzed: 17:21:07

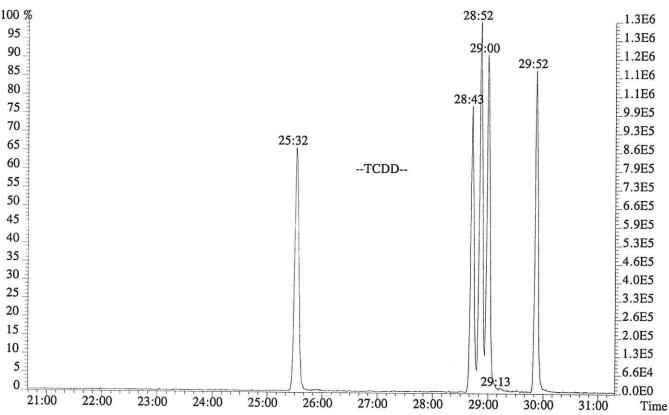
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:40	30:04
TCDD	25:32	29:52
PeCDF	29:56	34:13
PeCDD	31:29	33:57
HxCDF	34:50	37:22
HxCDD	35:21	36:56

[%] Valley 2378-TCDD:



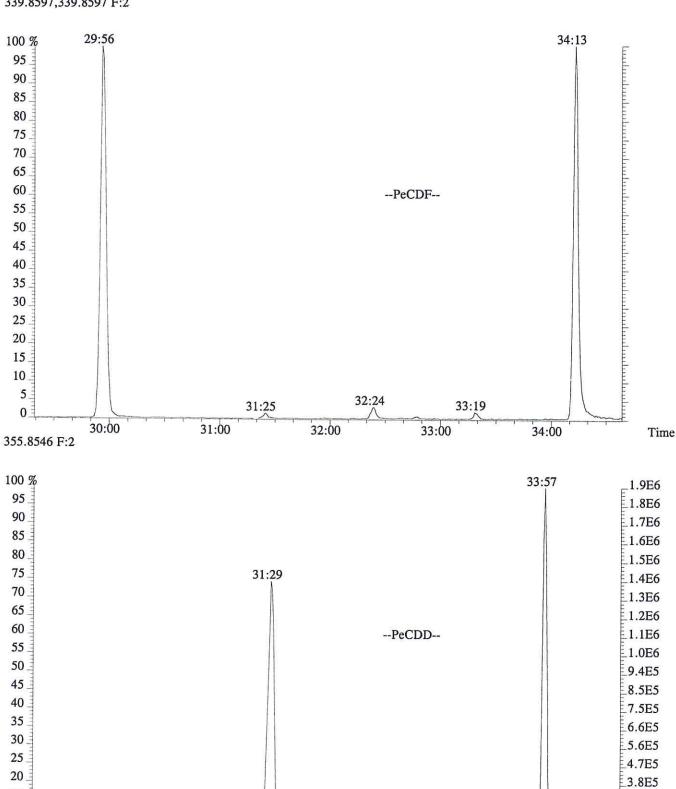
File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016





E1600326.R1 212 of 327

File:P603990 #1-756 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



32:00

2.8E5

1.9E5

9.4E4

0.0E0

Time

33:35

33:00

34:00

E1600326.R1 213 of 327

31:00

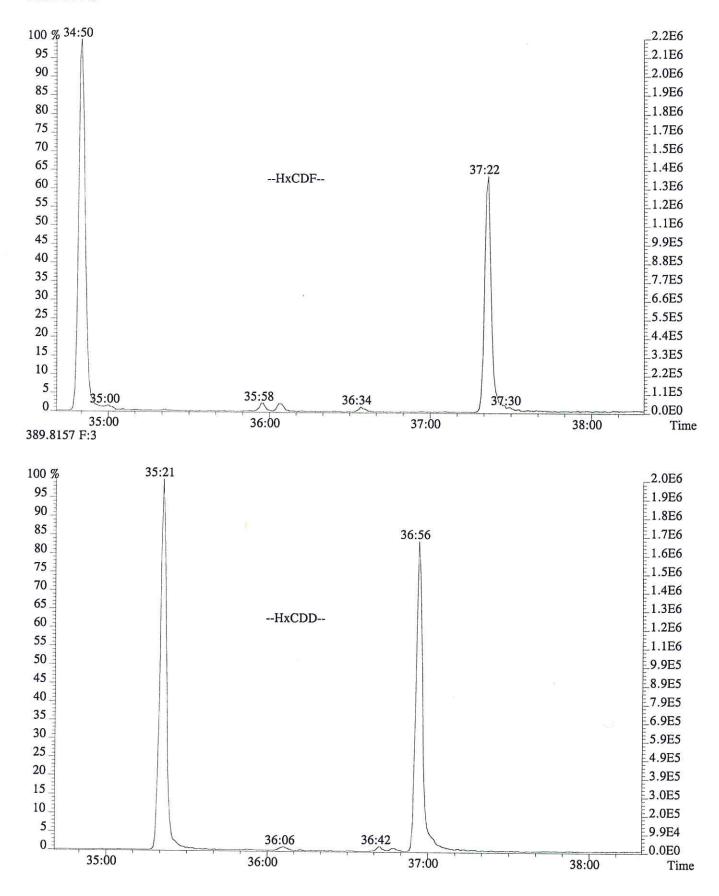
30:00

15

10

5

File:P603990 #1-329 Acq:25-JUN-2016 17:21:07 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	4.7	3.9 - 6.45	-6.5
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	4.9	4.2 - 6.0	-1.2
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25.0	20.5 - 30.5	0.0

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.
- (4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
 Method 8290
 12/2012
 1613F4A.FRM

E1600326.R1 215 of 327

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P603991

Analysis Date: 25-JUN-16 Time: 18:10:07

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	51	41 - 60.5	1.9
13C-1,2,3,4-TCDF	M/M+2	0.78	0.65-0.89	40	35.5-70	-20.5
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.80 1.59	0.65-0.89 1.32-1.78	49 50	35.5-70 38 - 65	-1.2 -0.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	50	38.5 - 65	-0.8
13C-1,2,3,7,8,9-HxCD	F	0.51	0.43-0.59	50	37 - 67.5	0.5
37C1-2,3,7,8-TCDD				5	3.9 - 6.35	2.4

(4)

12/2012 1613F4B.FRM

E1600326.R1

⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

0.78 yes

0.79 yes

0.79 yes

1.23 yes

yes

no

no

no

no

1.325

0.929

0.945

Filename P603991 Samp: 1 Acquired: 25-JUN-16 18:10:07 Inj: 1 Processed: 1-JUL-16 11:44:17 Sample ID: CS3 Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:14 7.317e+039.442e+030.77 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 5.372e+04 3.478e+04 1.54 yes no 0.929 11 Unk 2,3,7,8-TCDD | 29:00 5.621e+03 0.76 yes 7.353e+03no 1.048 18 IS 13C-2,3,7,8-TCDF 28:12 0.80|yes 7.876e+04 9.855e+04 no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 1.179e+05 7.427e+04 1.59 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:18 1.170e+05 7.340e+041.59 yes no 1.371 24 IS 13C-1,2,3,7,8,9-HxCDF | 37:19 3.766e+04 7.400e+04 0.51 yes no 0.875

6.477e+04

5.848e+04

6.187e+04

7.014e+04

1.354e+04

8.258e+04

7.390e+04

7.805e+04

5.687e+04

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115 Houston, TX 77099

Run #6

26 IS

27 IS

33 RS/RT

34 RS/RT

35 C/Up

Telephone: (713)266-1599. Fax(713)266-0130

13C-1,2,3,4-TCDF 26:58

13C-2,3,7,8-TCDD 28:58

13C-1,2,3,4-TCDD 28:23

37C1-2,3,7,8-TCDD 29:00

13C-1,2,3,7,8,9-HxCDD 37:00

E1600326.R1 217 of 327

ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID

Run #6 Filename P603991 Samp: 1 Inj: 1 Acquired: 25-JUN-16 18:10:07 Processed: 1-JUL-16 11:44:17 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	S/N Rat.2
1	2,3,7,8-TCDF	1.31e+06	1.20e+03	1.1e+03	1.69e+06	3.98e+03	4.2e+02
3	2,3,4,7,8-PeCDF	1.05e+07	6.46e+03	1.6e+03	6.82e+06	1.05e+04	6.5e+02
11	2,3,7,8-TCDD	1.05e+06	1.33e+03	7.9e+02	1.39e+06	1.12e+03	1.2e+03
18	13C-2,3,7,8-TCDF	1.41e+07	5.64e+03	2.5e+03	1.78e+07	2.72e+03	6.5e+03
19	13C-1,2,3,7,8-PeCDF	2.17e+07	2.08e+04	1.0e+03	1.36e+07	1.43e+04	9.6e+02
20	13C-2,3,4,7,8-PeCDF	2.28e+07	2.08e+04	1.1e+03	1.43e+07	1.43e+04	1.0e+03
24	13C-1,2,3,7,8,9-HxCDF	7.47e+06	1.48e+03	5.0e+03	1.45e+07	2.10e+03	6.9e+03
26	13C-1,2,3,4-TCDF	1.06e+07	5.64e+03	1.9e+03	1.34e+07	2.72e+03	4.9e+03
	2						
27	13C-2,3,7,8-TCDD	1.08e+07	8.37e+03	1.3e+03	1.37e+07	3.50e+03	3.9e+03
33	13C-1,2,3,4-TCDD	1.14e+07	8.37e+03	1.4e+03	1.43e+07	3.50e+03	4.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.40e+07	2.88e+03	4.8e+03	1.12e+07	9.96e+02	1.1e+04
35	37Cl-2,3,7,8-TCDD	2.55e+06	2.30e+03	1.1e+03			

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

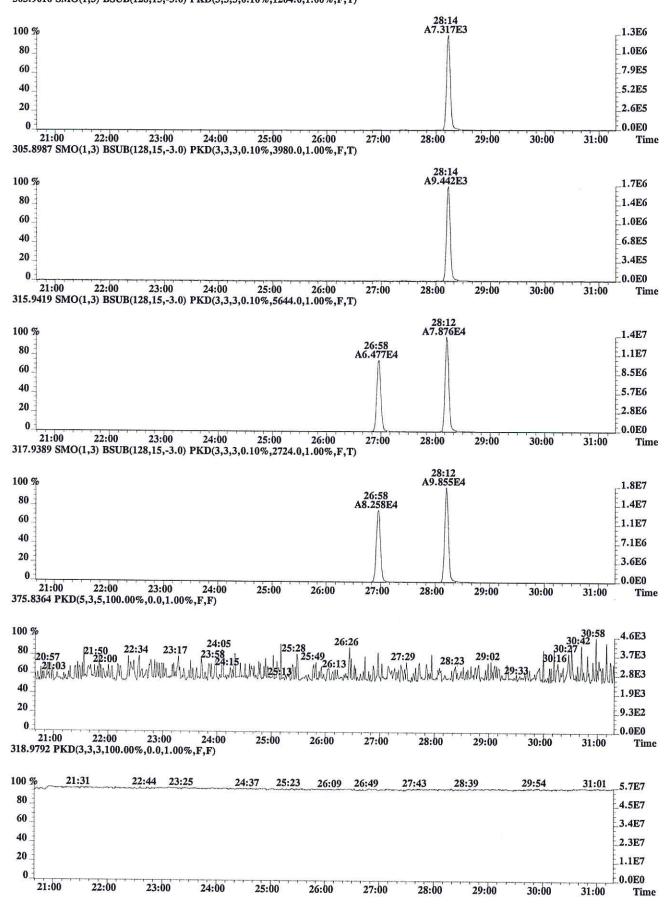
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

www.alsglobal.com

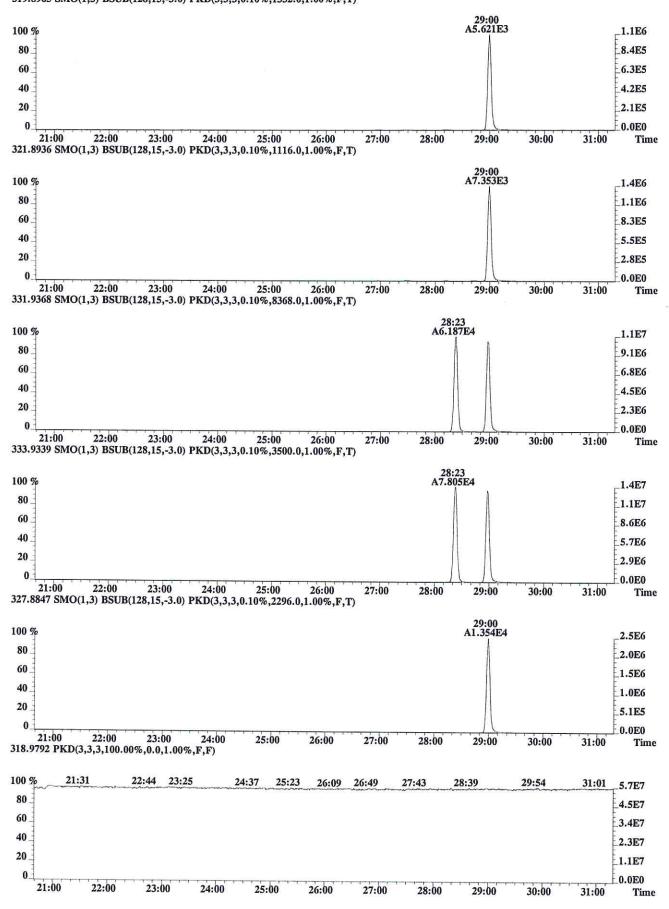
E1600326.R1 218 of 327

File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,T)

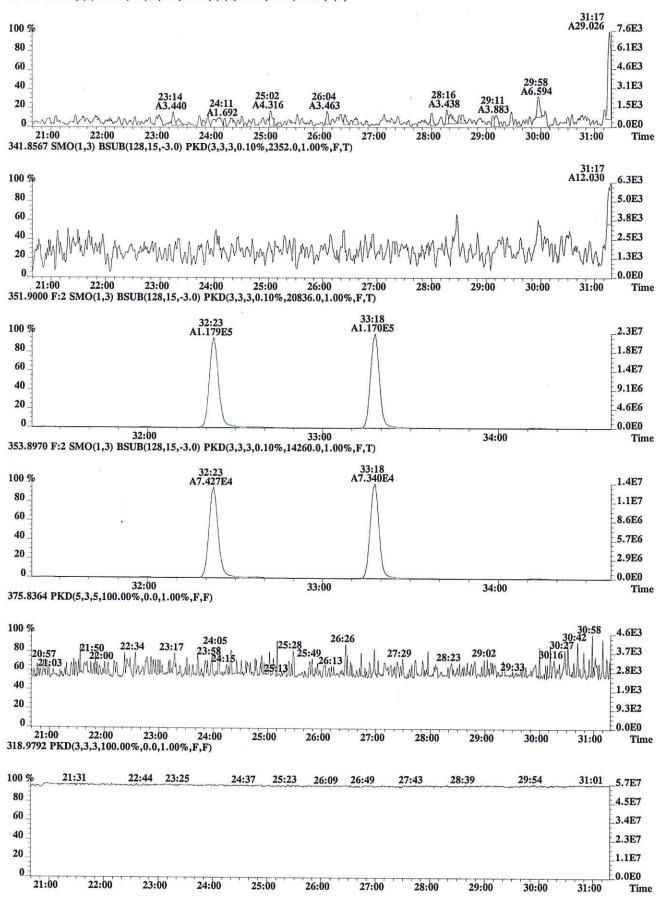


E1600326.R1 219 of 327

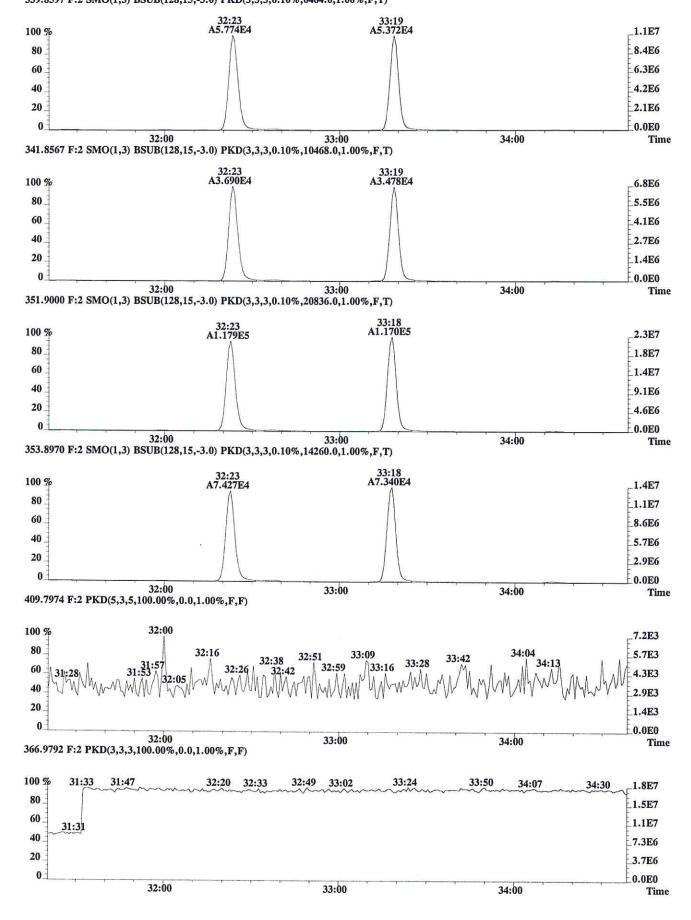
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File:P603991 #1-756 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)

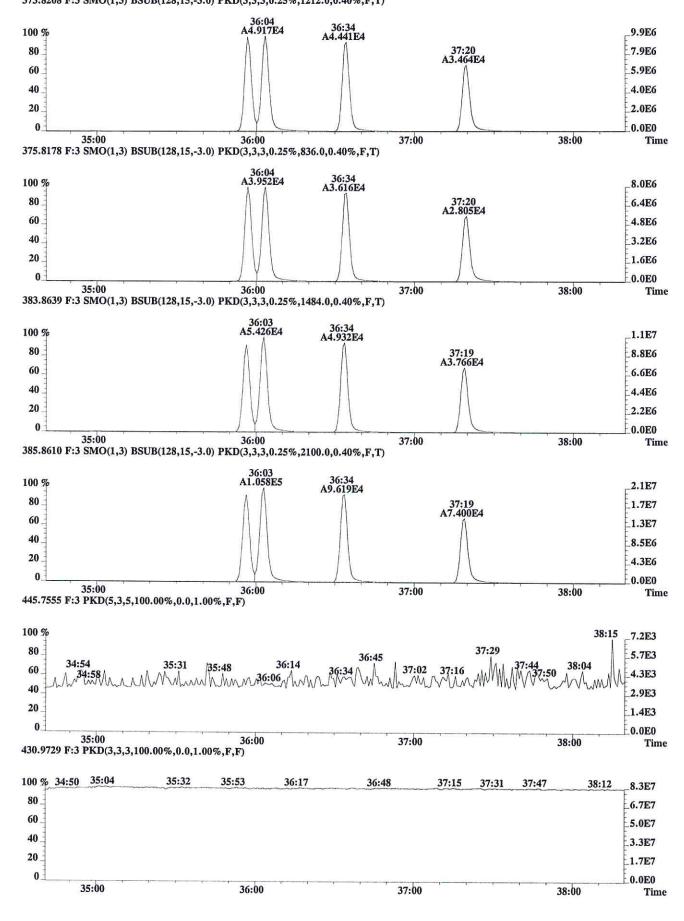


File:P603991 #1-298 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6464.0,1.00%,F,T)



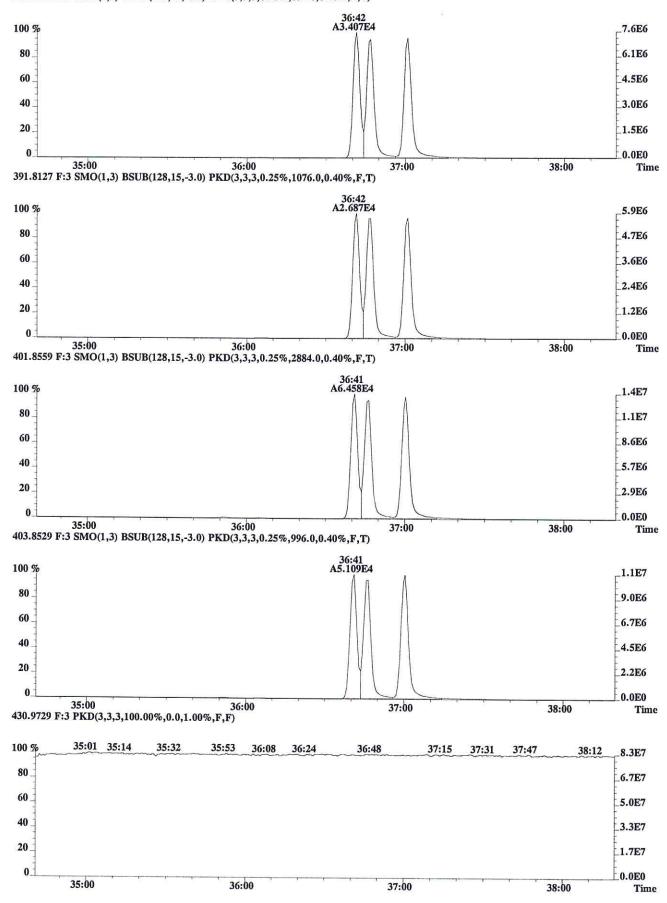
E1600326.R1 222 of 327

File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



E1600326.R1 223 of 327

File:P603991 #1-329 Acq:25-JUN-2016 18:10:07 Probe EI+ Magnet SIR VG BioTech Mass spectrom Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P(004.000	Circle or /	ne: Ending
Method: 1613 1613E / 8290/ VCP / Tetra / TCDD O	nly / TCDF Conf / VCP Con	f / 8280 / M23 / TO-9A
Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled		. 🗸
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters		
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)		
CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria		
All relative abundance ratios meet method criteria		
No QC ion deflections of greater than 20% (HRMS Only)		
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)		
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column		V
Signal-to-noise of all target analytes and their labeled standards at least 10:1		
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	NA	NA
Ending Calibration injected prior to end of 12 hour clock	NA	NM
Analyst:ccalqc.xls 07/17/12	Second QC:	_K(

E1600326.R1 225 of 327

USEPA - CLP Page 1 of

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code:

Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
				:========
87077	WINDOW DEFINE	P604005	26-JUN-16	08:48:01
173638	CS3	P604006	26-JUN-16	09:39:51
METHOD BLANK	EQ1600220-01	P604007	26-JUN-16	11:18:23
METHOD BLANK	EQ1600222-01	P604008	26-JUN-16	12:04:48
METHOD BLANK	EQ1600222-04	P604009	26-JUN-16	12:53:50
LCS	EQ1600220-02	P604016	26-JUN-16	18:59:32
DLCS	EQ1600220-03	P604017	26-JUN-16	19:48:33
04072016SJGW14	E1600326-008	P604010	26-JUN-16	14:07:59
04072016SJGW15	E1600326-009	P604011	26-JUN-16	14:54:24

FORM V-HR CDD-3

DLM02.0(5/05)

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Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List:

C:\MassLynx\EHRMS08.PRO\SampleDB\20160626.SPL

Last Modified:

Friday, July 01, 2016 08:56:23 Eastern Daylight Time

Printed:

Friday, July 01, 2016 08:56:32 Eastern Daylight Time

Page 1 of 2

Page Position (1, 1)

opus 4: P60 400 bres

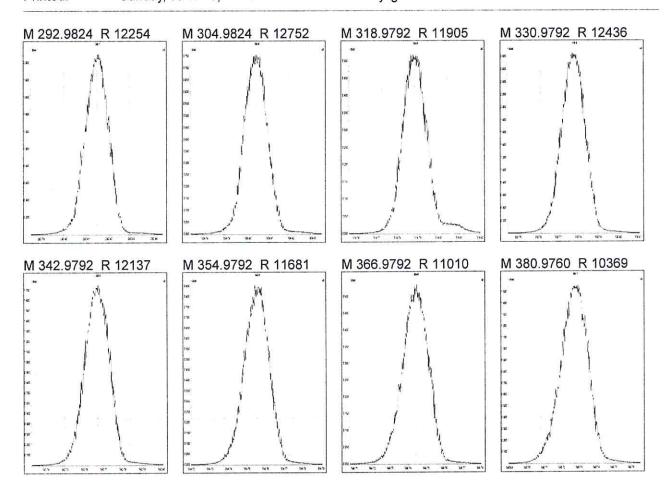
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	06/26/16	08:48	P604005	87077	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LKC	HRMS check 08:42
2		09:39	P604006	173638	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		11:18,	P604007	EQ1600220-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		(4)
4		12:04	P604008	EQ1600222-01	MB	Tray1:4	EPA1613_ALS	Dioxin_ALS		
5		12:53	P604009	EQ1600222-04	MB	Tray1:5	EPA1613_ALS	Dioxin_ALS		
6		14:07	P604010	E1600326-008	E1600326-008	Tray1:6	EPA1613_ALS	Dioxin_ALS		* ************************************
7		14:54	P604011	E1600326-009	E1600326-009	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8	\rightarrow	15:43	P604012	E1600426-001	E1600426-001	Tray1:8	EPA1613_ALS	Dioxin_ALS		
9		16:32	P604013	E1600426-002	E1600426-002	Tray1:9	EPA1613_ALS	Dioxin_ALS		x
10		17:21	P604014	E1600426-003	E1600426-003		EPA1613_ALS	Dioxin_ALS		
11		18:10	P604015	E1600426-004	E1600426-004	Tray1:11		Dioxin_ALS		.
12	-1/	18:59	P604016	EQ1600220-02	LCS		EPA1613_ALS	Dioxin_ALS		HRMS check 10:25
13 14		19:48	P604017	EQ1600220-03	DLCS		EPA1613_ALS	Dioxin_ALS	<u>V</u>	FRMS CHEW (0-2)
15			. =		- The Principal	Tray1:14	EPA1613_ALS EPA1613_ALS	Dioxin_ALS		· · · · · · · · · · · · · · · · · · ·
16		•				Tray1:15		Dioxin_ALS		-
17					Table	Tray1:17		Dioxin_ALS Dioxin_ALS		
18			202	T 03-20		Tray1:18	EPA1613_ALS	Dioxin_ALS		
19						Tray1:19		Dioxin_ALS		
20						Tray1:10		Dioxin ALS		(************************************
21	-					Tray1:21	EPA1613_ALS	Dioxin_ALS		·
22			<i>f-1</i> .			Tray1:22	EPA1613_ALS	Dioxin_ALS		
23			1-101	: ===		Tray1:23	EPA1613_ALS	Dioxin_ALS	-	
24			$\underline{\underline{U}}_{i}$	1		Tray1:24	EPA1613_ALS	Dioxin_ALS		
25			-41 m		***	Trav1:25	EPA1613_ALS	Dioxin_ALS		
26			+10/110)-f (p		Tray1:26	EPA1613_ALS	Dioxin_ALS		
27			70110	אין בי		Tray1:27	EPA1613_ALS	Dioxin_ALS		
28						Tray1:28	EPA1613_ALS	Dioxin_ALS		
29					S MAR	Tray1:29		Dioxin_ALS		
30					1	Tray1:30	EPA1613_ALS	Dioxin_ALS		#135 #155
31						Tray1:31	EPA1613_ALS	Dioxin_ALS		
32						Tray1:32	EPA1613_ALS	Dioxin_ALS		
33				7. 555		Tray1:33	EPA1613_ALS	Dioxin_ALS		
34				7 		Tray1:34		Dioxin_ALS	2227	
35					-	Tray1:35		Dioxin_ALS		ana :
36						Tray1:36	EPA1613_ALS	Dioxin_ALS		
37						Tray1:37		Dioxin_ALS		TOT
38			X	·		Tray1:38	EPA1613_ALS	Dioxin_ALS		
39				Y		1ray1:39	EPA1613_ALS	Dioxin_ALS		

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:42:02 Eastern Daylight Time

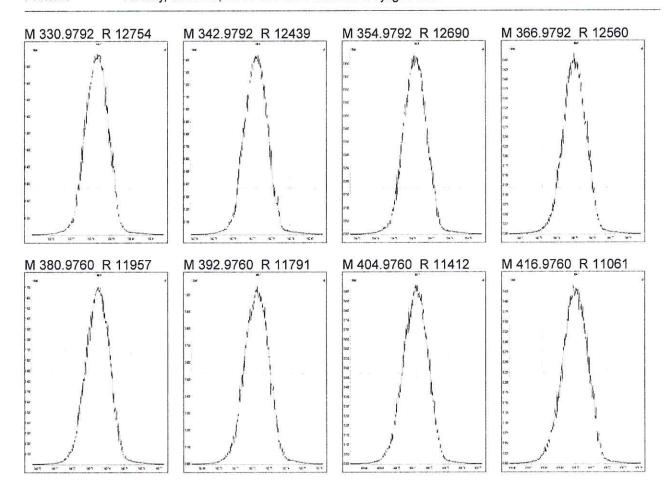


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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:43:19 Eastern Daylight Time



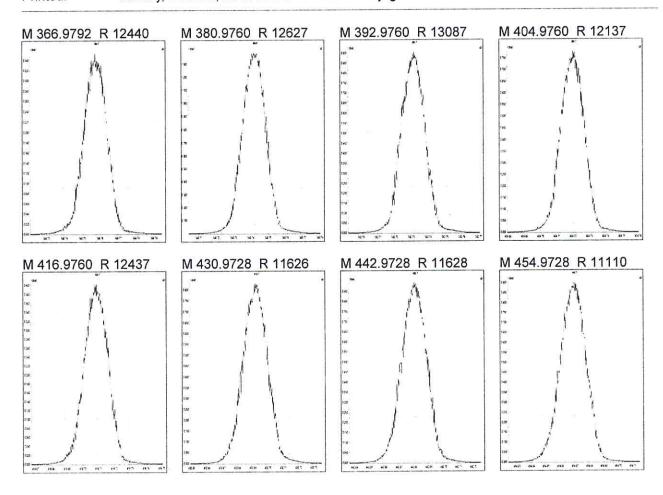
E1600326.R1 229 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:44:28 Eastern Daylight Time



E1600326.R1 230 of 327

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

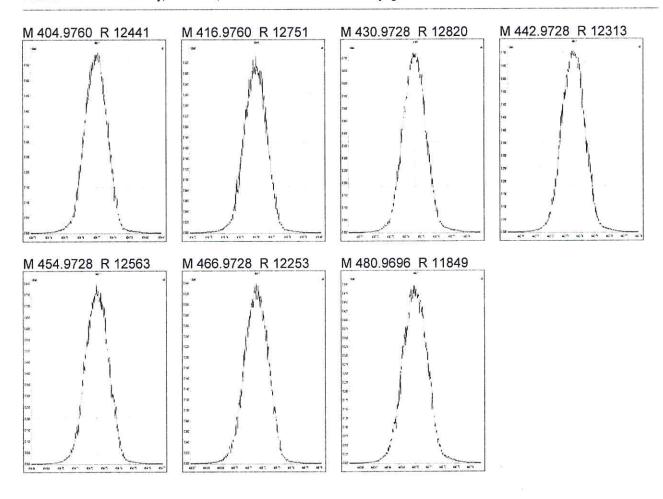
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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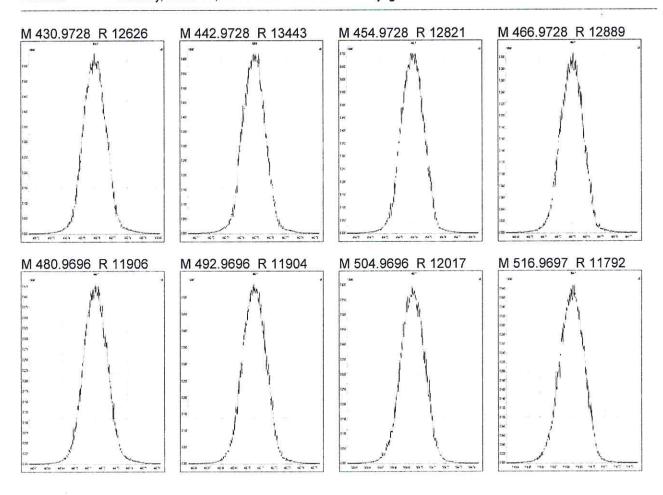


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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Sunday, June 26, 2016 08:47:08 Eastern Daylight Time



E1600326.R1

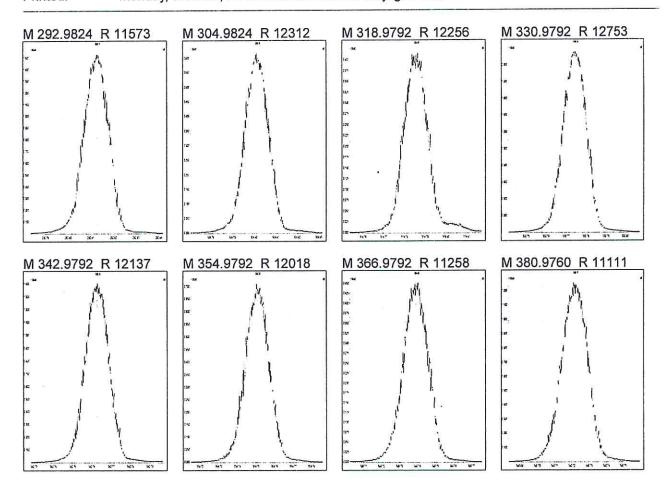
232 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:25:05 Eastern Daylight Time



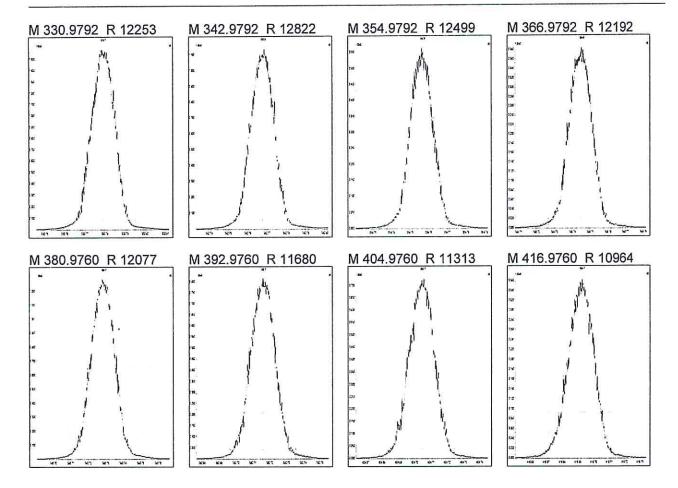
E1600326.R1 233 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:27:01 Eastern Daylight Time



E1600326.R1 234 of 327

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

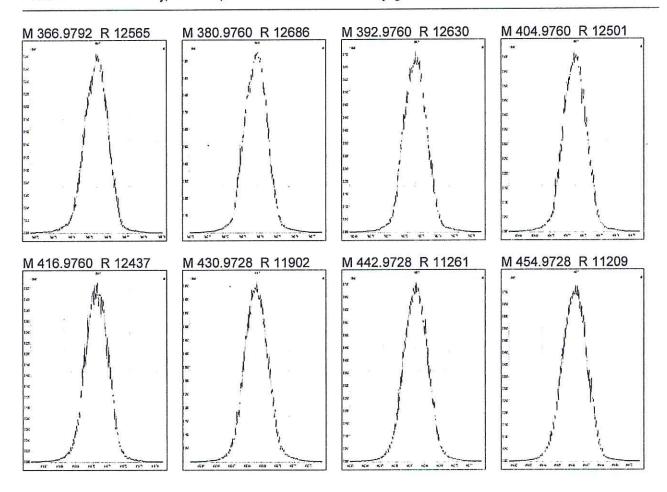
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:28:22 Eastern Daylight Time



Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

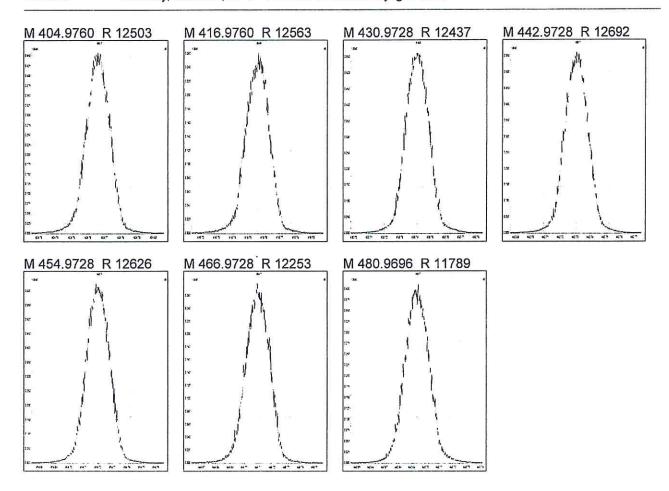
Page 1 of 1

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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:29:47 Eastern Daylight Time



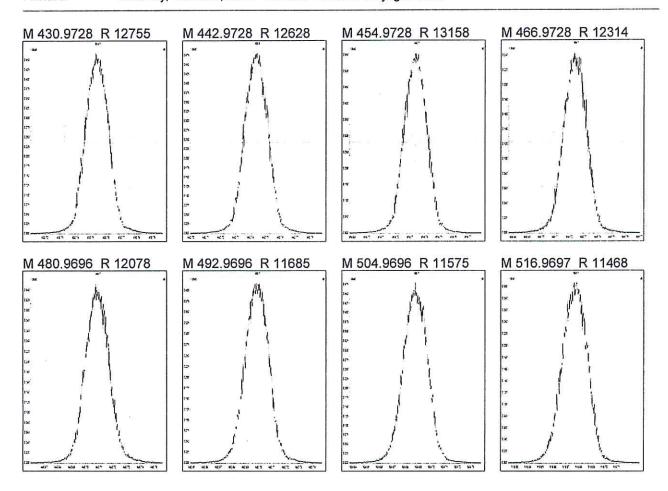
E1600326.R1 236 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Monday, June 27, 2016 10:31:11 Eastern Daylight Time



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT	ID:
WDM	

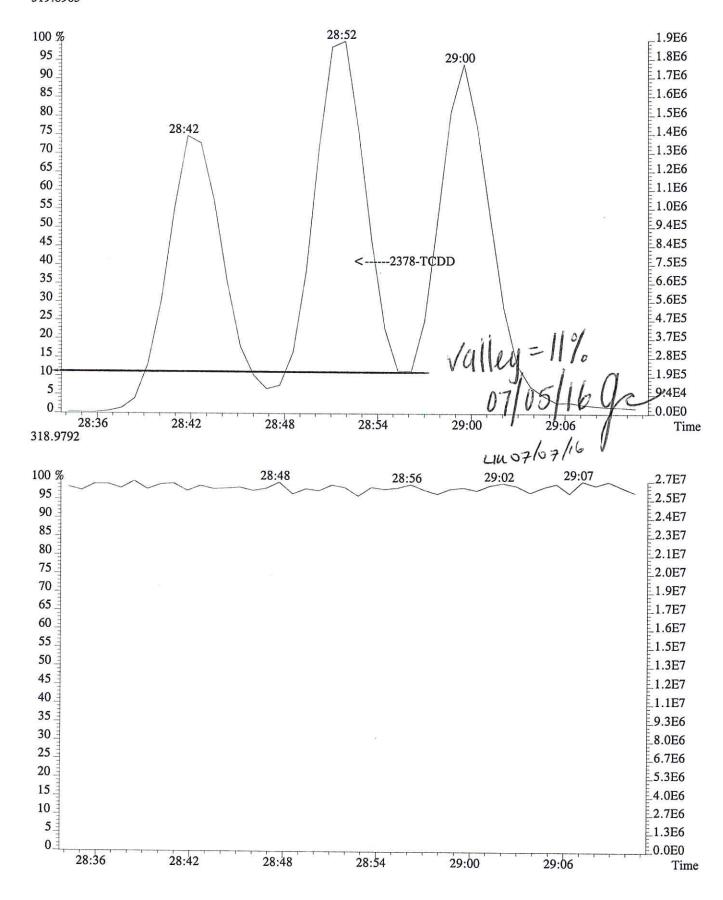
Lab Name: ALS Environmental Lab Code: ALSTX GC Column: DB-5MSUI

____ SDG No.: Lab File ID: P604005

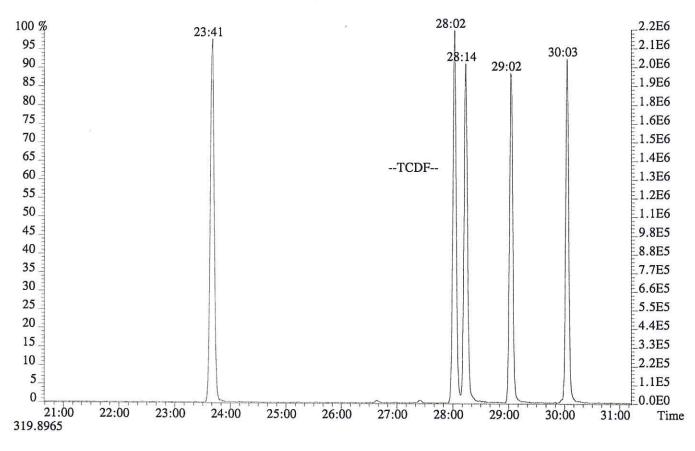
Date Analyzed: 26-JUN-2016 Time Analyzed: 08:48:01

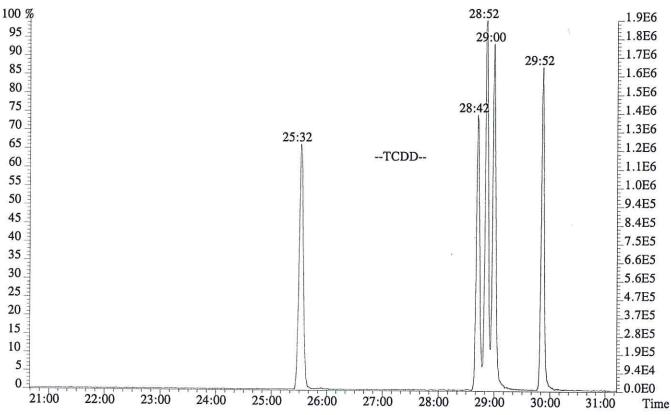
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:41	30:03
TCDD	25:32	29:52
PeCDF	29:56	34:13
PeCDD	31:29	33:57
HxCDF	34:50	37:20
HxCDD	35:20	36:56

[%] Valley 2378-TCDD:

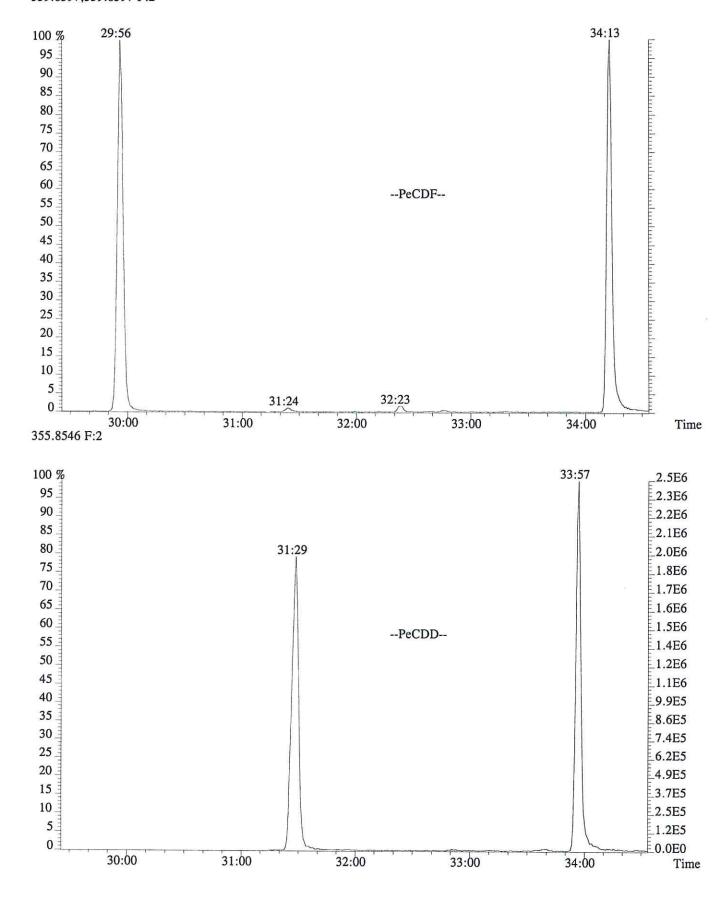


File:P604005 #1-749 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016

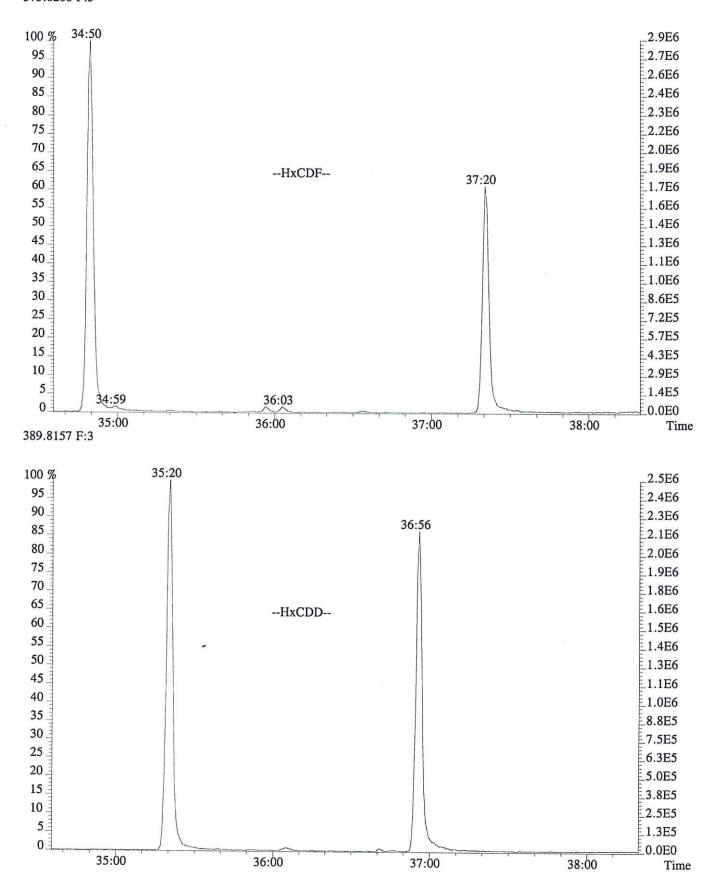




File:P604005 #1-749 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 339.8597,339.8597 F:2



File:P604005 #1-337 Acq:26-JUN-2016 08:48:01 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P604006

Analysis Date: 26-JUN-16 Time: 09:39:51

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	4.6	3.9 - 6.45	-8.3
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	4.6	4.2 - 6.0	-8.7
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	25.3	20.5 - 30.5	1.3

- (1) See Table 8, Method 1613B, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
- (3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.
- (4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
 Method 8290
 12/2012
 1613F4A.FRM

E1600326.R1 243 of 327

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P604006

Analysis Date: 26-JUN-16 Time: 09:39:51

LARELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	51	41 - 60.5	2.2
13C-1,2,3,4-TCDF	M/M+2	0.79	0.65-0.89	48	35.5-70	-3.2
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.78 1.58	0.65-0.89 1.32-1.78	49 47	35.5-70 38 - 65	-2.6 -5.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	45	38.5 - 65	-10.1
13C-1,2,3,7,8,9-HxCD	F	0.51	0.43-0.59	51	37 - 67.5	1.3
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	-0.5

(4)

12/2012 1613F4B.FRM

⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173638

Run #6 Filename P604006 Samp: 1 Inj: 1 Acquired: 26-JUN-16 09:39:51 Processed: 7-JUL-16 08:02:36 Sample ID: CS3

LIO	cessea.	7-001-10	00.02.30		Sample ID.	.00				
	Тур		Name	RT-1	Resp :	L	Resp 2	Ratio Mee	Mod?	RRF
3	IS IS IS	2,3,4, 2,3 13C-2,3 13C-1,2,3, 13C-2,3,4, 13C-1,2,3,7,	7,8-PeCDF	33:18 28:59 28:11 32:22 33:17 37:18	6.006e+03 4.535e+04 5.052e+03 7.074e+04 1.027e+03 9.728e+04 3.128e+04 7.295e+04	1 : : : : : : : : : : : : : : : : : : :	8.060e+03 2.938e+04 6.689e+03 9.022e+04 6.509e+04 6.152e+04 6.181e+04 9.239e+04	0.75 yes 1.54 yes 0.76 yes 0.78 yes 1.58 yes 1.58 yes 0.51 yes	no	0.957 0.929 1.048 1.283 1.381 1.371 0.875 1.325
34	RS/RT	13C-1,2 13C-1,2,3,7,	3,7,8-TCDD 2,3,4-TCDD 8,9-HxCDD 3,7,8-TCDD	28:22 37:00	5.358e+04 5.707e+04 5.907e+04 1.211e+04	1 ' 1 '	6.862e+04 7.174e+04 4.596e+04	0.78 yes 0.80 yes 1.29 yes	no no no no	0.929 - - 0.945

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Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173638

Run #6 Filename P604006 Samp: 1 Inj: 1 Acquired: 26-JUN-16 09:39:51

LAB. ID: CS3 Processed: 7-JUL-16 08:02:36

		112		7 555			
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.08e+06	1.18e+03	9.2e+02	1.46e+06	3.18e+03	4.6e+02
3	2,3,4,7,8-PeCDF	8.96e+06	1.40e+03	6.4e+03	5.78e+06	1.17e+04	4.9e+02
11	2,3,7,8-TCDD	9.68e+05	1.22e+03	7.9e+02	1.27e+06	1.48e+03	8.6e+02
18	13C-2,3,7,8-TCDF	1.25e+07	4.44e+03	2.8e+03	1.60e+07	2.40e+03	6.7e+03
19	13C-1,2,3,7,8-PeCDF	1.90e+07	1.81e+04	1.0e+03	1.19e+07	2.43e+03	4.9e+03
20	13C-2,3,4,7,8-PeCDF	1.89e+07	1.81e+04	1.0e+03	1.18e+07	2.43e+03	4.9e+03
24	13C-1,2,3,7,8,9-HxCDF	6.26e+06	1.18e+03	5.3e+03	1.22e+07	1.90e+03	6.4e+03
26	13C-1,2,3,4-TCDF	1.21e+07	4.44e+03	2.7e+03	1.53e+07	2.40e+03	6.4e+03
27	13C-2,3,7,8-TCDD	9.99e+06	7.30e+03	1.4e+03	1.27e+07	3.19e+03	4.0e+03
33	13C-1,2,3,4-TCDD	1.08e+07	7.30e+03	1.5e+03	1.35e+07	3.19e+03	4.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.16e+07	3.04e+03	3.8e+03	9.23e+06	1.53e+03	6.0e+03
35	37Cl-2,3,7,8-TCDD	2.28e+06	2.04e+03	1.1e+03			

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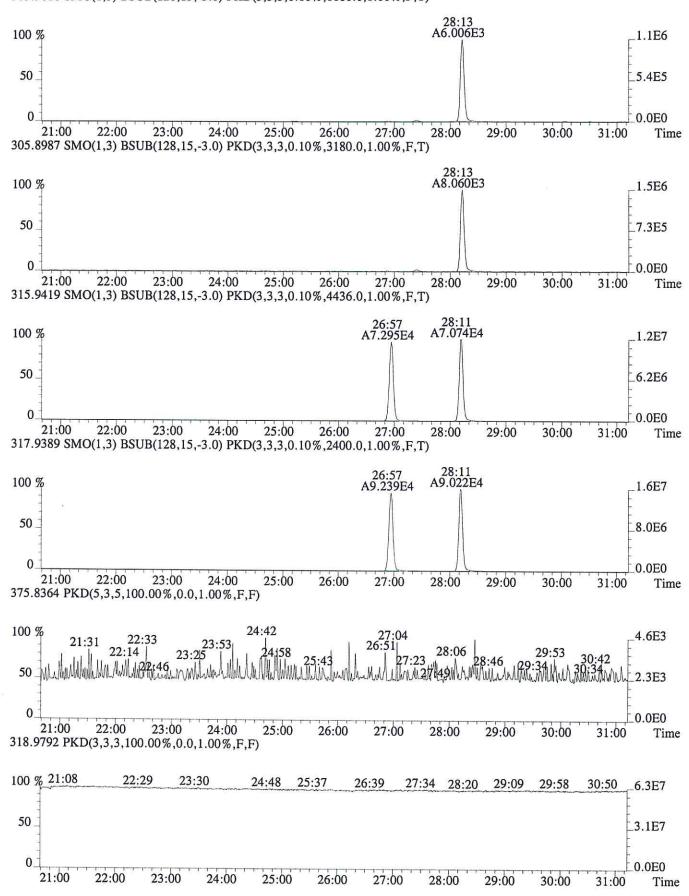
10450 Stancliff Rd., Suite 115

Houston, TX 77099

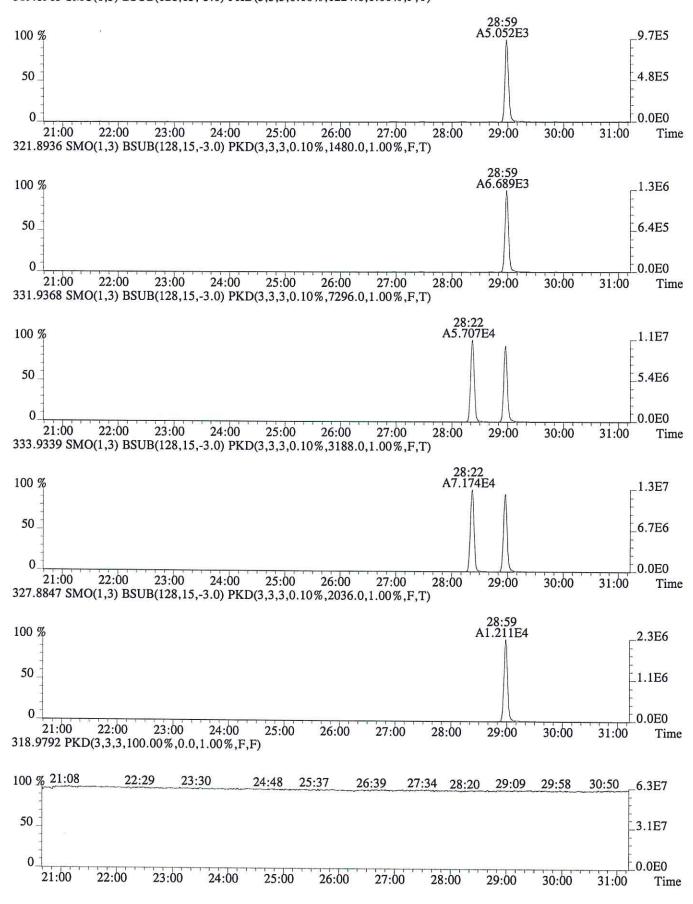
Office: (713)266-1599. Fax: (713)266-0130

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E1600326.R1 246 of 327 File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)

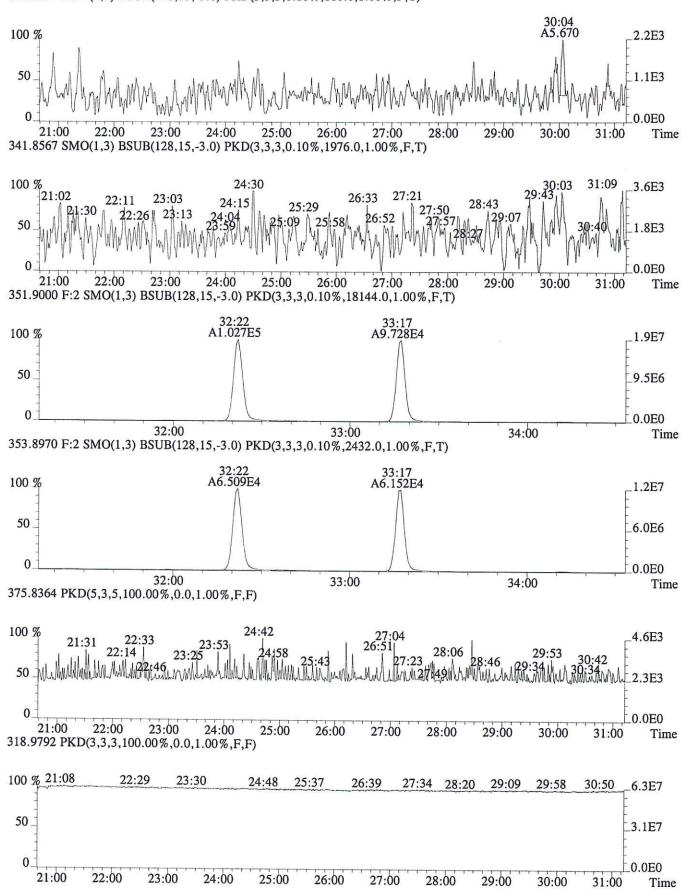


File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)

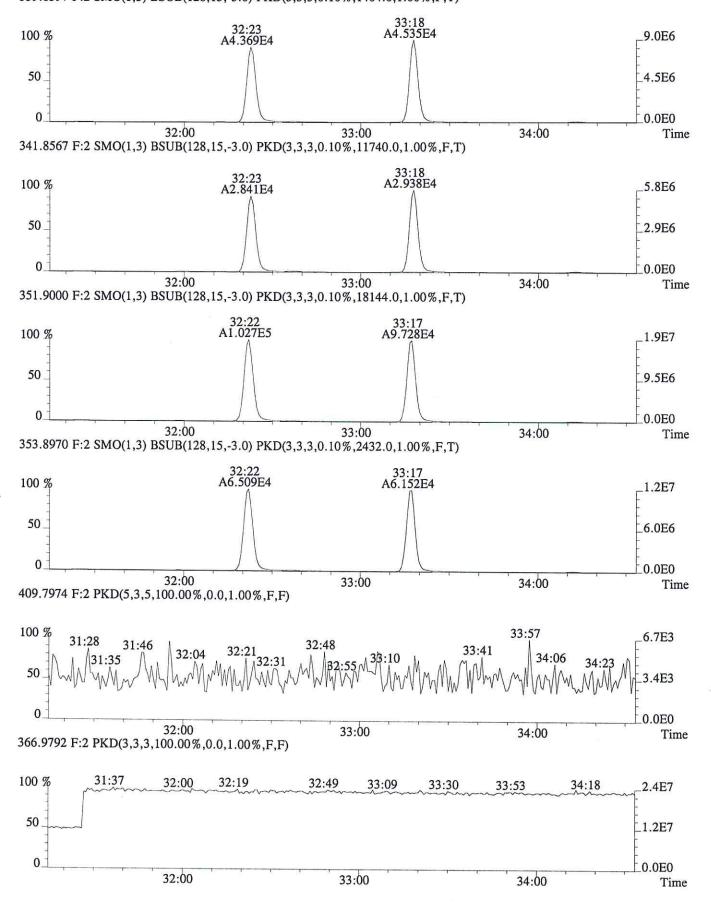


E1600326.R1 248 of 327

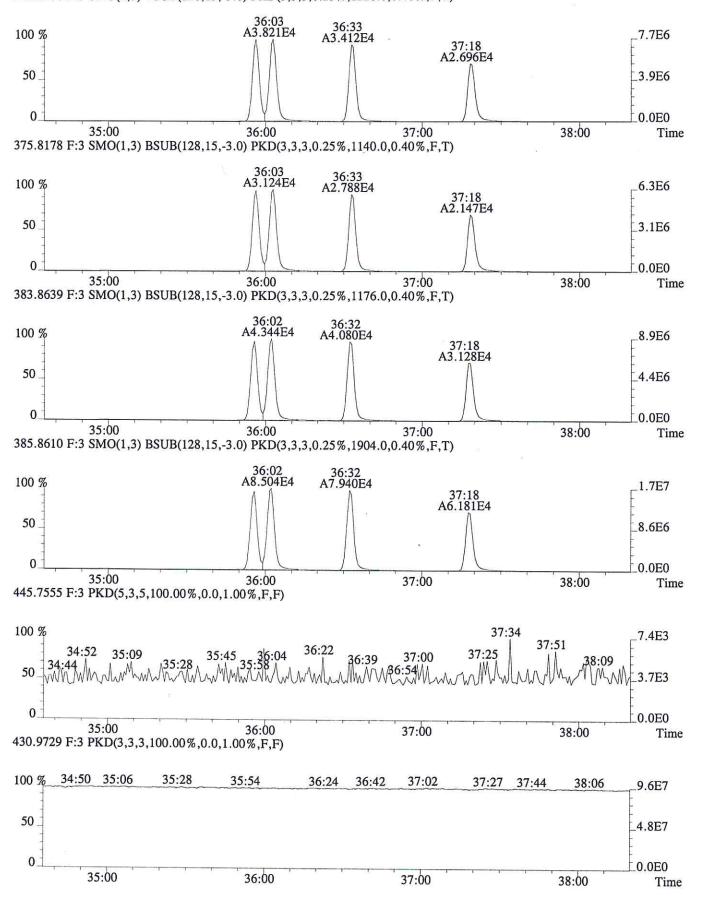
File:P604006 #1-749 Acq:26-JUN-2016 09:39:51 Probe EI + Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



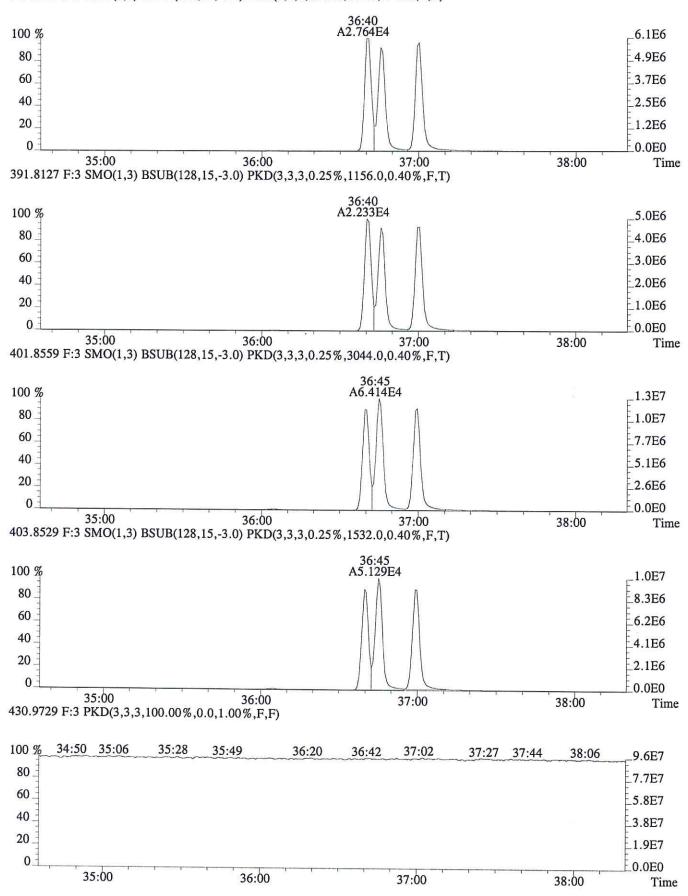
File:P604006 #1-299 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,T)



File:P604006 #1-337 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



File:P604006 #1-337 Acq:26-JUN-2016 09:39:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)





Initial Calibration

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Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	Process Date: 06	5/25/2	016			
Instrument Name: E-HRMS-08	Calibration File N			6255DN	/CI	
Processor Name: Gisela Cruz	Reviewer Name:			0233FN	ICI	
Supervisor: Andy Neir	Reviewer Name.	LUAIT	uong			
oup of the off that the off th						
Description		Yes	No	NA	NR	ER#
		163	NO	INA	INIX	ER#
Analytical Sequence				No.	SS G STORAGE	indiana.
Does the analytical sequence summary accurately reflect	the instrument	With solvery	Control Street Co.		SALINE SALIS	
run log, including ICV?	and motivativene	1				
Was a Mass Resolution Check performed at the beginning	and end of the					
12-hour sequence?		\				
Were all calibration standards and the ICV analyzed within	n the same 12-					
hour sequence?		✓				
Were all calibration standards analyzed only once?		1				1
Was the ICV analyzed after the ICAL, before analyzing san	nples?	1				
		1				
Mass Resolution Check						
Are beginning and ending resolution checks provided and	legible?	1				
Were all target masses >10,000 resolving power at the be	ginning of the					
sequence?		√				
Were all target masses >10,000 resolving power at the en	d of the					
sequence?		√				
For PCB analysis, were masses at the low and high end of	each function					
mass range >8,000?				- √		
Where automatic printout of the mass resolution were not	t >10,000, was					
the resolution inspected by a trained analyst, including m of the resolution, if warranted?	anual calculation					
or the resolution, it warranted:				√		
Window Define/209		Nosella III	(10 000 pt)	Telure S	TEADS III	NAME OF STREET
Is the window defining mix summary present, and accomp	nanied by	AL ALEXED		SEC. LEVEL	And the state of	
SICPs/Chromatograms for the WDM?	partied by	√				
Was the WDM/Column Performance/209 solution analyze	d prior to the	V				
analysis of the calibration standards?	a prior to the	.,				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?		√ √				
Were all first and last eluters adequately resolved in each	function?	-/				
If first and last eluters were not resolved, was corrective a	ction performed					
and documented, followed by a reanalysis of the WDM?	outon periorined			✓		
Was the retention time of PCB 209 >55 min?				1		
Were the following congeners uniquely resolved (valley he	ight <40% of the					
shortest peak)?						
PCB-34 and PCB-23						
PCB-187 and PCB-182				√		
Did PCB 156/157 co-elute within 2 seconds at peak maxin	num?			V		
Calibration Standards		iden M				
Were there at least 5 calibration standards analyzed?		√				
If not all calibration standards were used, were the omitte	d standards					
either the lowest or highest calibration standard?				-√		
Are all sample response summaries, S/N height summarie	s, and SICPs	√				

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2 revised 3/1/13

Page 1

Laboratory Review Checklist: HRMS Initial Calibration

Method: SPME	Process Date: 06	5/25/2	016			
Instrument Name: E-HRMS-08	Calibration File N	lame: I	P6-160	625SPN	ΛEI	
	Reviewer Name:	Loan L	uong			
Supervisor: Andy Neir						
Description		Yes	No	NA	NR	ER#
included (and legible) for the entire sequence?						
Did each calibration point meet method criteria for Ion Abufor all analytes and labeled standards?		1				
Did each calibration point meet method criteria for signal-t (S/N)?		√				
Were area counts for the highest calibration standard below saturation?		\				
Were manual integrations technically justified to correct for integration?	r poor software	√				1
Response Factors						
Is the ICAL Response Factor Summary present, including RF each native/labeled analyte at each level of calibration?		1				
Were all calibration standards used in determining respons	e factors?	√				
Were relative response factors (RR) for each native analyte ceach calibration point?		√				
Did the RSD for RRFs for each native analyte meet method	criteria?	√				
Were response factors (RF) for each native analyte not having corresponding labeled compound calculated at each calibrates.	ng a ation point?	√				
Were RFs for each labeled compound calculated for each ca	libration point?	1				
Did the RSD for RF for each labeled compound meet metho	d criteria?	1				
Initial Calibration Verification						
Is the calibration verification present, including form 4A/B results for the ICV (Conc. or %D)	reflecting	1				
Did all analytes meet method criteria for the ICV.		./				

Meth	od: SPME	Review Checklist: Initial Calibration Process Date: 06/25/2016
Instru	ument Name: E-HRMS-08	Calibration File Name: P6-160625SPMEI
Proce	ssor Name: Gisela Cruz	Reviewer Name: Loan Luong
ER#⁵	Description	
1	and secondary ions. Before and afte	to correct inconsistent baseline determinations between primary or chromatograms provided. Where there is no after dication reflects an update to reconcile response values between domatograph.
	Not Applicable;	
NR = 1	Not Reviewed;	
R# = F	exception Report identification number	er (an Exception Report should be completed for an item if "NP"

icallrc_r1 hrms initial calibration SPME- 062516(EHRMS-08)ALS Environmental ©2013 of 2

Page 2

revised 3/1/13

"No" is checked).

ALS ENVIRONMENTAL

5DFC PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: TX01411 Episode No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm) Instrument ID: E-HRMS-08

Init. Calib. Date: 06/25/16

Init. Calib. Times: 09:17

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, SPIKES AND DUPLICATES IS AS FOLLOWS:

EPA	LAB	LAB	DATE	TIME
SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED	ANALYZED
===========	============	=========	==========	========
87077	WINDOW DEFINE	P603981	25-JUN-16	09:17:10
173636	CS1	P603982	25-JUN-16	10:06:18
173637	CS2	P603983	25-JUN-16	11:09:26
L73638	CS3	P603984	25-JUN-16	11:55:54
L73639	CS4	P603985	25-JUN-16	12:52:51
73640	CS5	P603986	25-JUN-16	13:45:46
CS3 2ND SOURCE	CS3 2ND SOURCE	P603988	25-JUN-16	15:21:10

Sample List Report	MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20160625.SPL Last Modified: Friday, July 01, 2016 08:45:44 Eastern Daylight Time

Page 1 of 2

Printed: Friday, July 01, 2016 08:48:07 Eastern Daylight Time

Page Position (1, 1)

OPUS4: P6-160625SPMEI

Date Time File Name Lab Sample ID Client File Text **Bottle** MS File Inlet File Analyst Comments HRMS check 09:11 09:17 P603981 87077 WINDOW DEFINE EPA1613 ALS Dioxin ALS LKL Tray1:1 10:06 P603982 173636 CS₁ Tray1:2 EPA1613_ALS Dioxin ALS 3 P603983 173637 CS₂ EPA1613_ALS Dioxin_ALS Tray1:3 P603984 173638 CS₃ Tray1:4 EPA1613 ALS Dioxin ALS 5 P603985 173639 CS4 Tray1:5 EPA1613 ALS Dioxin ALS 6 P603986 173640 CS₅ Tray1:6 EPA1613 ALS Dioxin ALS P603987 NONANE NONANE Tray1:7 EPA1613 ALS Dioxin ALS 8 P603988 CS3 2ND SOURCE CS3 2ND SOURCE Tray1:8 EPA1613 ALS Dioxin ALS 9 P603989 NONANE NONANE Tray1:9 EPA1613_ALS Dioxin ALS 10 Tray1:10 EPA1613 ALS Dioxin ALS 11 EPA1613_ALS Tray1:11 Dioxin_ALS Tray1:12 EPA1613 ALS Dioxin ALS 13 Tray1:13 EPA1613 ALS Dioxin ALS 14 Tray1:14 EPA1613_ALS Dioxin ALS 15 Tray1:15 EPA1613 ALS Dioxin ALS EPA1613 ALS 16 Tray1:16 Dioxin_ALS 17 Tray1:17 EPA1613_ALS Dioxin ALS 18 Tray1:18 EPA1613 ALS Dioxin_ALS 19 Tray1:19 EPA1613_ALS Dioxin_ALS 20 Tray1:20 EPA1613_ALS Dioxin_ALS 21 Tray1:21 EPA1613 ALS Dioxin ALS 22 Tray1:22 EPA1613 ALS Dioxin ALS 23 Tray1:23 EPA1613_ALS Dioxin_ALS 24 Tray1:24 EPA1613_ALS Dioxin ALS 25 Tray1:25 EPA1613 ALS Dioxin_ALS 26 Tray1:26 EPA1613_ALS Dioxin ALS 27 Tray1:27 EPA1613 ALS Dioxin ALS 28 Tray1:28 EPA1613_ALS Dioxin ALS 29 Tray1:29 EPA1613_ALS Dioxin ALS 30 Tray1:30 EPA1613 ALS Dioxin ALS 31 Tray1:31 EPA1613 ALS Dioxin ALS 32 Tray1:32 EPA1613 ALS Dioxin ALS Form Updated H lab-sample 33 Tray1:33 EPA1613 ALS Dioxin ALS 34 Tray1:34 EPA1613 ALS Dioxin ALS 35 Tray1:35 EPA1613 ALS Dioxin ALS Tray1:36 EPA1613 ALS 36 Dioxin ALS 37 Tray1:37 EPA1613 ALS Dioxin ALS 38 Tray1:38 EPA1613_ALS Dioxin ALS 39 Tray1:39 EPA1613_ALS Dioxin_ALS

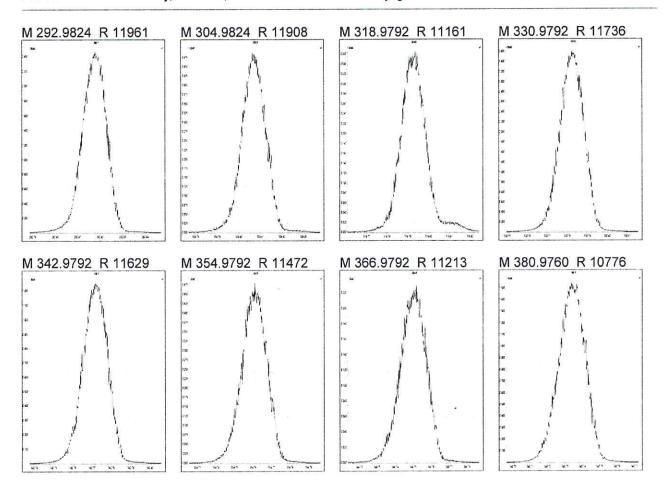
opus 4: P603988 res

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:11:20 Eastern Daylight Time

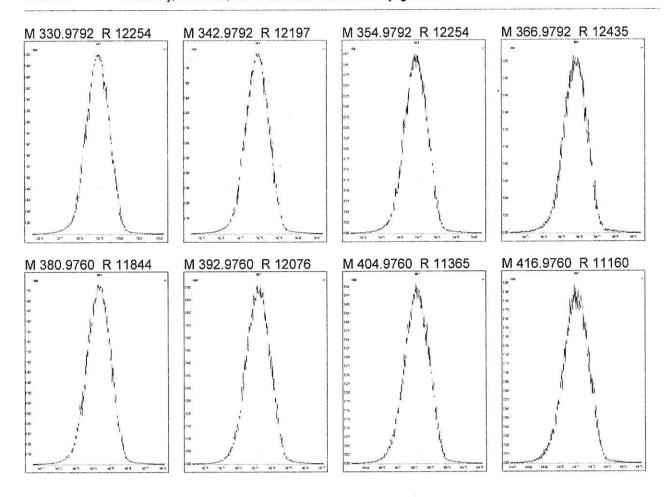


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Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:12:33 Eastern Daylight Time

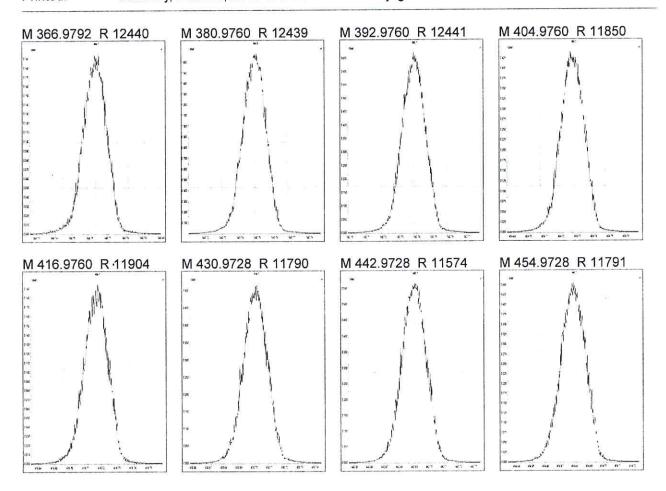


File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:13:42 Eastern Daylight Time



E1600326.R1 260 of 327

Experiment Calibration Report

MassLynx 4.1 SCN815 SCN795

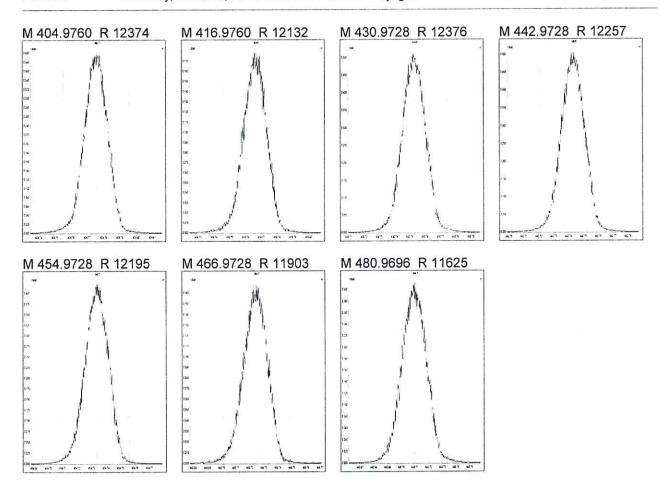
Page 1 of 1

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:14:56 Eastern Daylight Time



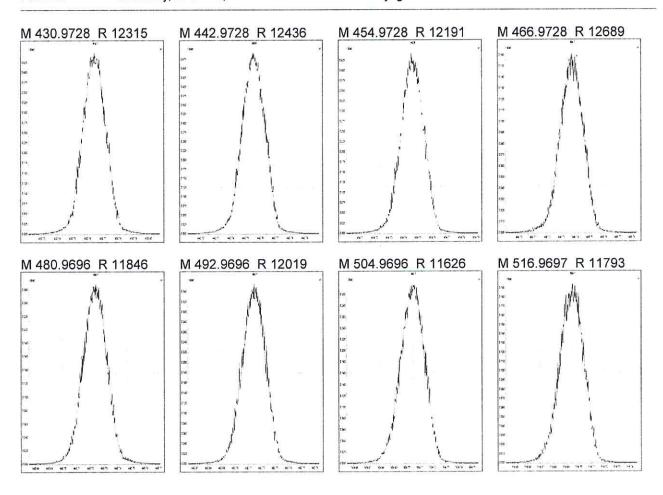
E1600326.R1 261 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 09:16:07 Eastern Daylight Time



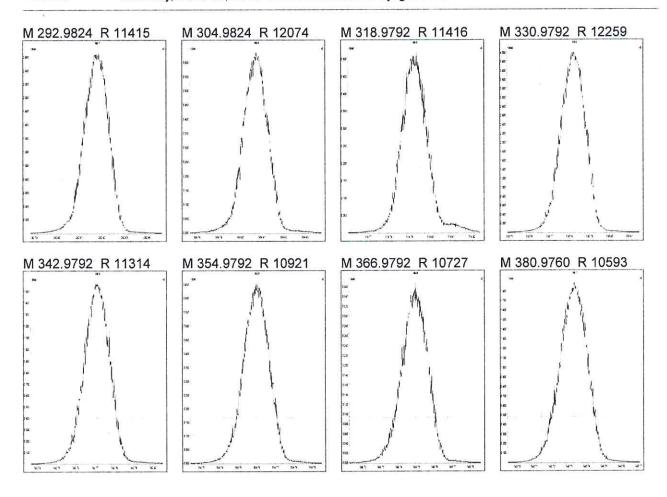
E1600326.R1 262 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:28:26 Eastern Daylight Time

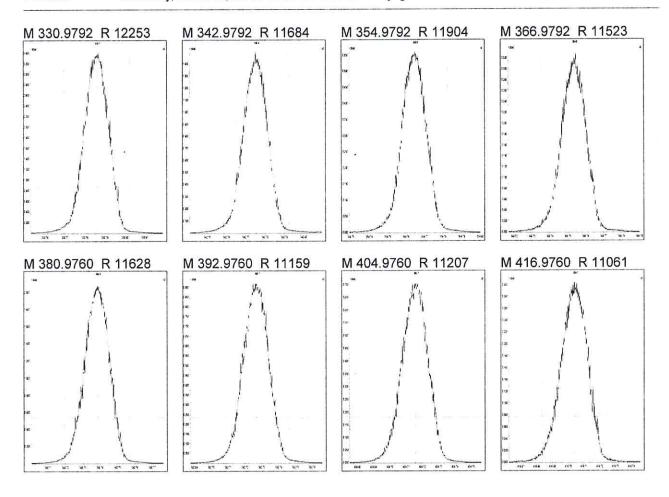


File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:29:39 Eastern Daylight Time



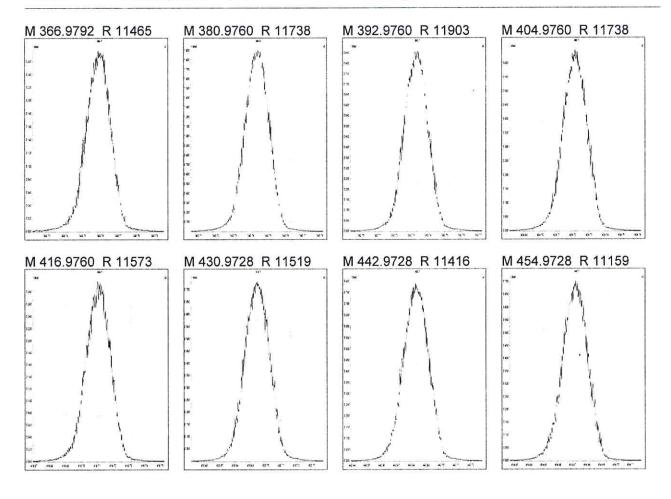
E1600326.R1 264 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:30:52 Eastern Daylight Time



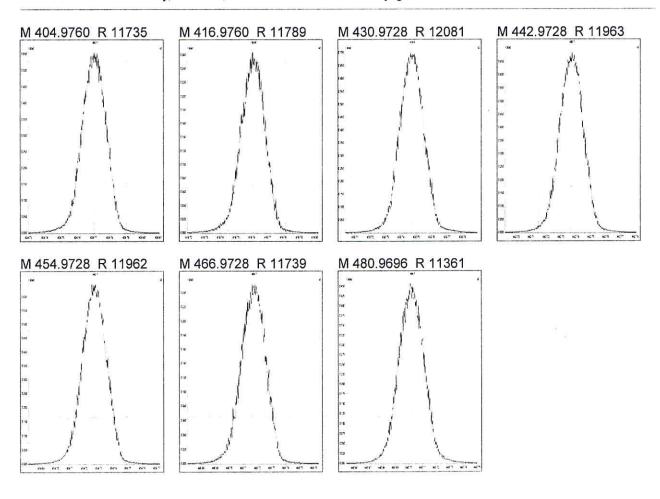
E1600326.R1 265 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:32:13 Eastern Daylight Time



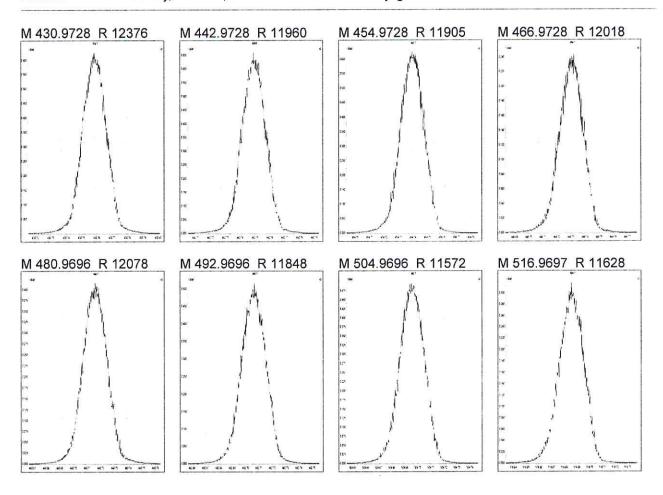
E1600326.R1 266 of 327

File:

Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Saturday, June 25, 2016 16:33:28 Eastern Daylight Time



E1600326.R1 267 of 327

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID: WDM

SDG No.:
Lab File ID: P603981 SDG No.:

Date Analyzed: 25-JUN-2016

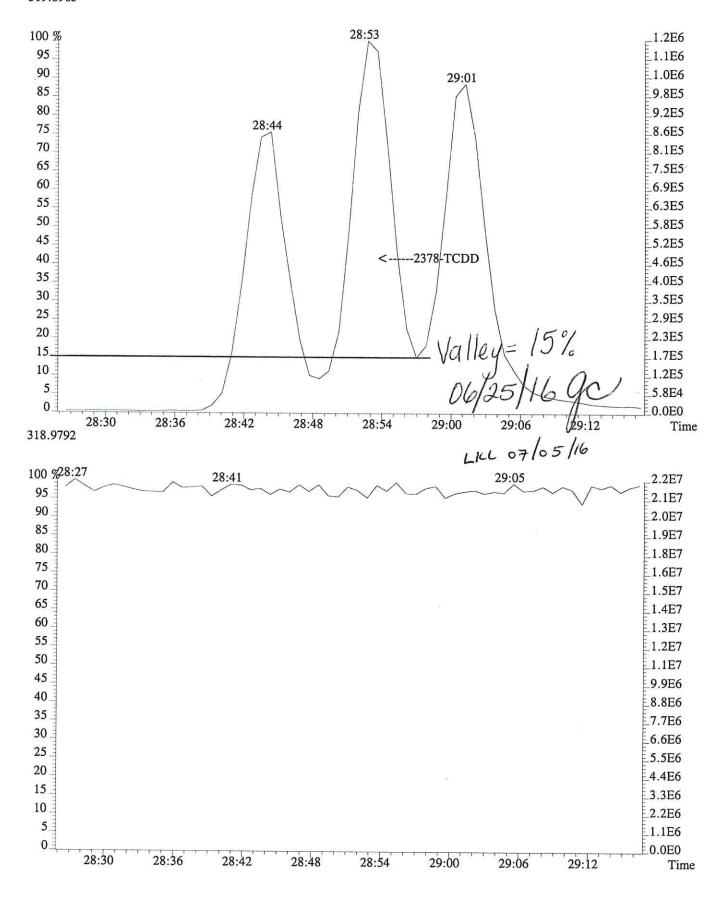
Time Analyzed: 09:17:10

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:42	30:05
TCDD	25:33	29:54
PeCDF	29:58	34:14
PeCDD	31:30	33:58
HxCDF	34:50	37:22
HxCDD	35:22	36:57
HpCDF	38:33	39:58
HpCDD	38:47	39:28

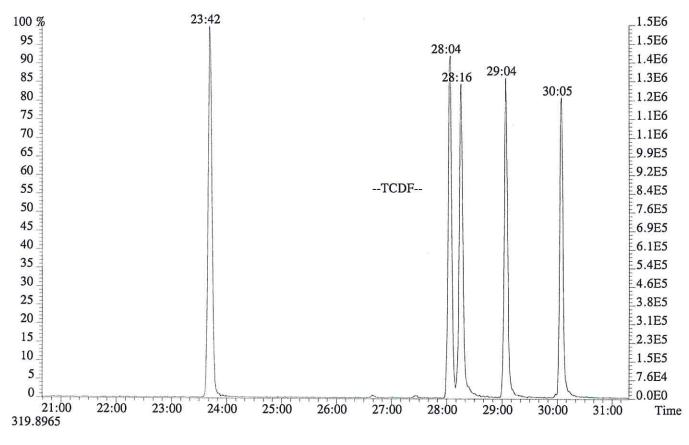
15 %

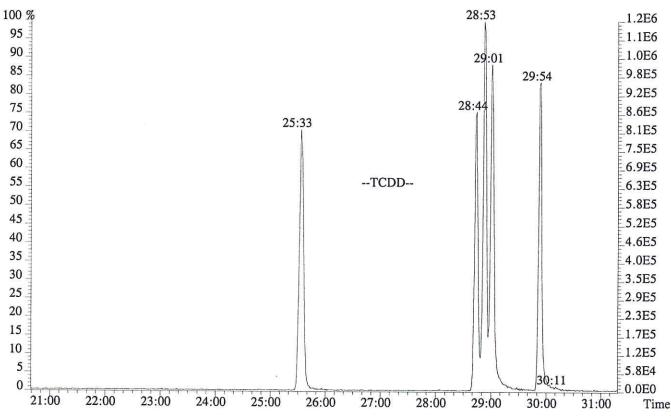
% Valley 2378-TCDD:

File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 319.8965

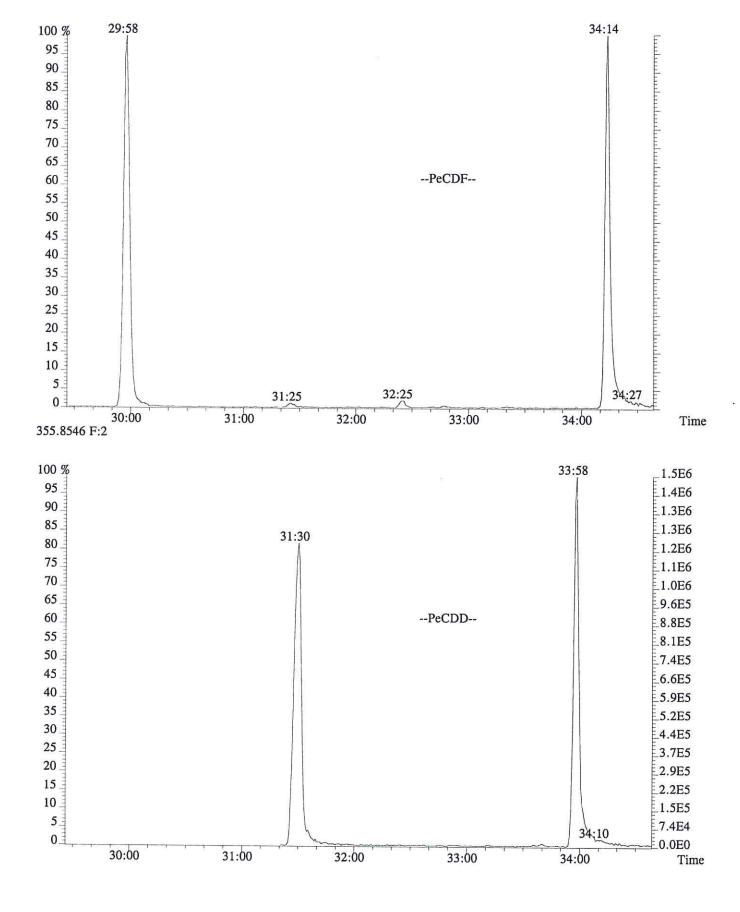


File:P603981 #1-756 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 303.9016



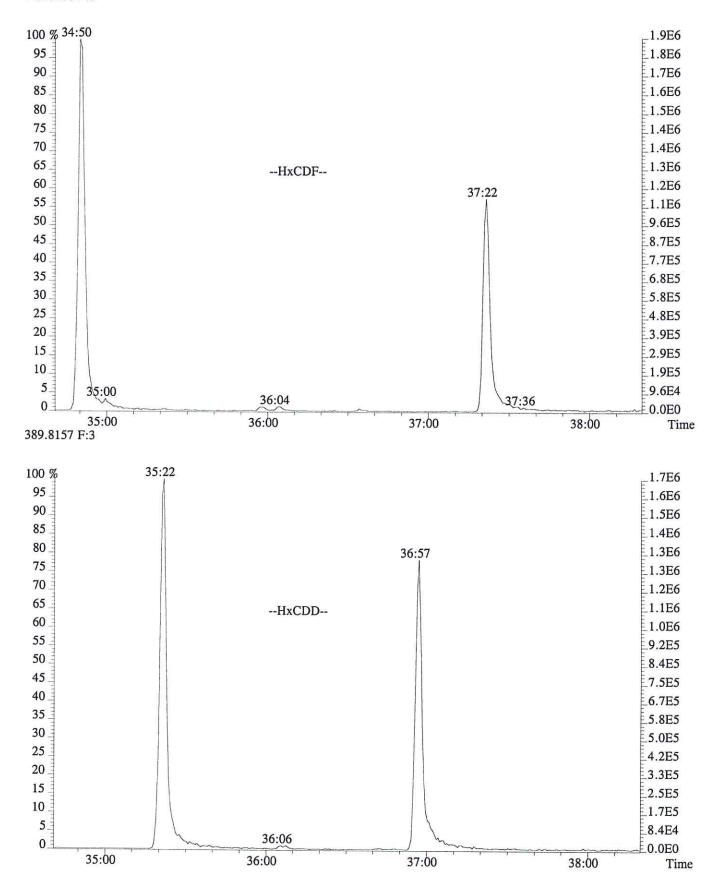


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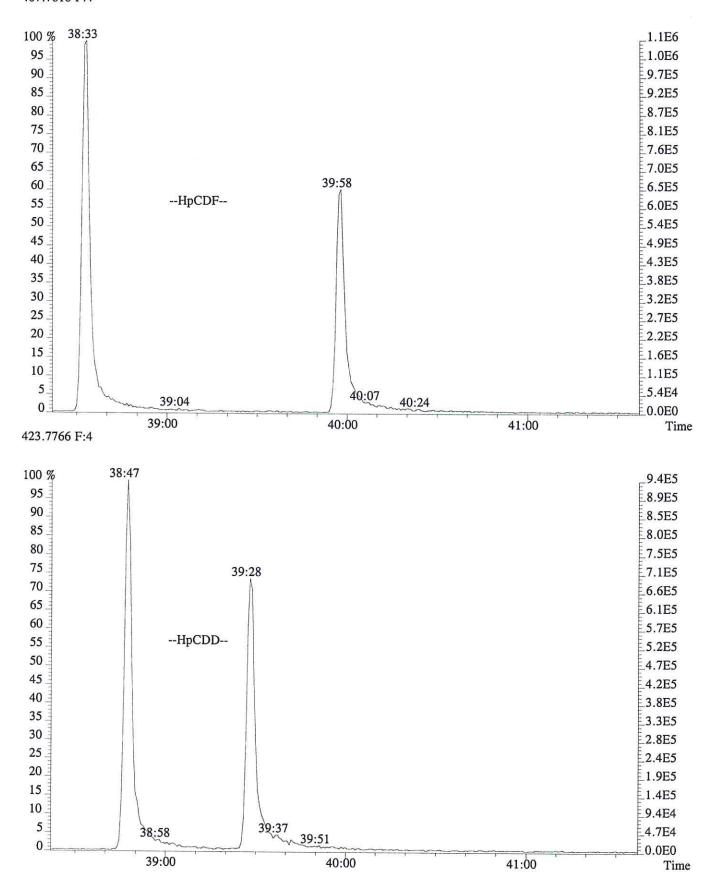
E1600326.R1 271 of 327

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 373.8208 F:3



E1600326.R1 272 of 327

File:P603981 #1-329 Acq:25-JUN-2016 09:17:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:WINDOW DEFINE 407.7818 F:4



SPME 5DFA5

CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

TO No.: SDG No.:

Instrument ID: E-HRMS-08 Method: SPME

Lab Code: ALSTX Case No.: GC Column: DB-5MSUI ID: 0.25(mm) Init. Calib. Date(s).: 06/25/16

Init. Calib. Time.: 09:17

RR/RRF

							MEAN	
Target Analytes	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	QC LIMITS
2,3,7,8-TCDF	1.16	1.01	1.00	1.02	1.06	1.05	6.57	+/-20%
2,3,7,8-TCDD	0.95	0.91	0.97	0.97	0.98	0.96	2.86	+/-20%
2,3,4,7,8-PeCDF	0.89	0.91	0.93	0.95	0.96	0.93	3.18	+/-20%
13C-1,2,3,4-TCDF	1.31	1.44	1.07	1.32	1.49	1.33	12.37	+/-35%
13C-2,3,7,8-TCDF	1.27	1.24	1.29	1.30	1.31	1.28	1.98	+/-35%
13C-2,3,7,8-TCDD	0.91	0.90	0.94	0.94	0.95	0.93	2.27	+/-35%
13C-1,2,3,7,8-PeCDF	1.36	1.32	1.40	1.39	1.44	1.38	3.44	+/-35%
13C-2,3,4,7,8-PeCDF	1.35	1.32	1.38	1.37	1.43	1.37	2.94	+/-35%
13C-1,2,3,7,8,9-HxCDF	0.87	0.84	0.89	0.87	0.89	0.87	2.35	+/-35%
37C1-2,3,7,8-TCDD	0.88	0.92	0.96	0.96	1.01	0.94	5.24	+/-35%

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^{1.123789-}HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.

^{2.} OCDF RR is calculated based on the labeled analog of OCDD

SPME 6DFB6

CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY HIGH RESOLUTION

Lab Name: ALS Environmental

Contract No.:

Lab Code: ALSTX Case No.:

TO No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Instrument ID: E-HRMS-08

Init. Calib. Date(s).: 06/25/16

Method SPME

Init. Calib. Time.: 09:17

ION ABUNDANCE RATIO

		-						
	SELECTED	-						ION RATIO
Target Analytes	IONS	C1	CS2	CS3	CS4	CS5	FLAG	QC lIMITS
2,3,7,8-TCDF	304/306	0.66	0.82	0.77	0.77	0.77		0.65-0.89
2,3,7,8-TCDD	320/322	0.68	0.79	0.78	0.79	0.78		0.65-0.89
2,3,4,7,8-PeCDF	340/342	1.56	1.53	1.55	1.56	1.55		1.32-1.78
13C-1,2,3,4-TCDF	316/318	0.80	0.80	0.80	0.79	0.80		0.65-0.89
13C-2,3,7,8-TCDF	316/318	0.82	0.80	0.80	0.80	0.80		0.65-0.89
13C-2,3,7,8-TCDD	332/334	0.78	0.77	0.78	0.78	0.78		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.63	1.60	1.60	1.60	1.61		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.62	1.60	1.60	1.61	1.58		1.32-1.78
13C-1,2,3,7,8,9-HxCDF	384/386	0.51	0.52	0.51	0.52	0.51		0.43-0.59
13C-1,2,3,4-TCDD	332/334	0.79	0.79	0.79	0.79	0.79		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.25	1.29	1.24	1.24	1.25		1.05-1.43

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

FORM VI-HR CDD-2

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. 173636

Run #1 Processed	Filename P603982 : 25-JUN-16 11:04:04	Samp: Sa	1 Inj: 1 ample ID: CS1	Acquired:	25-JUN-16 1	.0:06:18	8
Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
1 Unk	2,3,7,8-TCDF	28:14	1.659e+02	2.502e+02	0.66 yes	yes	0.957
3 Unk	2,3,4,7,8-PeCDF	33:19	1.262e+03	8.112e+02	1.56 yes	no	0.929
11 Unk	2,3,7,8-TCDD	29:00	1.471e+02	2.158e+02	0.68 yes	no	1.048
18 IS	13C-2,3,7,8-TCDF	28:13	3.924e+04	4.815e+04	0.82 yes	no	1.283
19 IS	13C-1,2,3,7,8-PeCDF	32:23	5.787e+04	3.555e+04	1.63 yes	no	1.381
20 IS	13C-2,3,4,7,8-PeCDF		5.732e+04	3.540e+04	1.62 yes	no	1.371
24 IS	13C-1,2,3,7,8,9-HxCDF		1.788e+04	3.501e+04	0.51 yes	no	0.875
26 IS	13C-1,2,3,4-TCDF	26:58	4.003e+04	4.991e+04	0.80 yes	yes	1.325
27 IS	13C-2,3,7,8-TCDD	28:59	2.727e+04	3.509e+04	0.78 yes	no	0.929
33 RS/RT	13C-1,2,3,4-TCDD	28:23	3.030e+04	3.842e+04	0.79 yes	no	-
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.373e+04	2.692e+04	1.25 yes	no	-
35 C/Up	37C1-2,3,7,8-TCDD	29:00	3.012e+02		, ,,,	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173636

Run #1 Acquired: 25-JUN-16 10:06:18 Filename P603982 Samp: 1 Inj: 1 Processed: 25-JUN-16 11:04:04 LAB. ID: CS1 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF | 2.89e+04 | 1.68e+03 | 1.7e+01 | 4.53e+04 | 4.50e+03 | 1.0e+01 3 2,3,4,7,8-PeCDF | 2.34e+05 | 1.24e+03 | 1.9e+02 | 1.53e+05 | 1.94e+03 | 7.9e + 0111 2,3,7,8-TCDD | 2.46e+04 | 1.07e+03 | 2.3e+01 | 3.66e+04 | 1.37e+03 | 2.7e + 0113C-2,3,7,8-TCDF 6.69e+06 6.48e+03 1.0e+03 8.21e+06 3.58e+03 2.3e+03 18 13C-1,2,3,7,8-PeCDF | 9.80e+06 | 1.39e+03 | 7.1e+03 | 6.08e+06 | 1.25e+04 | 4.8e+02 19 20 13C-2,3,4,7,8-PeCDF | 1.05e+07 | 1.39e+03 | 7.6e+03 | 6.48e+06 | 1.25e+04 | 5.2e+02

27	
34 13C-1,2,3,7,8,9-HxCDD 5.90e+06 2.00e+03 2.9e	e+02 7.02e+06 4.64e+03 1.5e+03
35 37Cl-2,3,7,8-TCDD 5.73e+04 3.00e+03 1.9e	e+03 4.65e+06 1.55e+03 3.0e+03

ALS ENVIRONMENTAL

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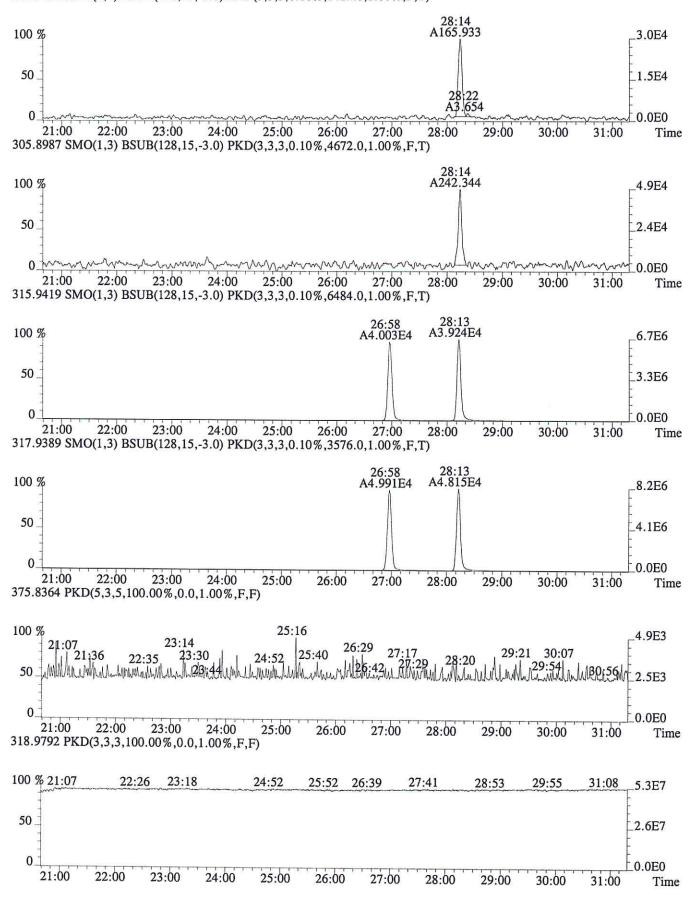
Houston, TX 77099

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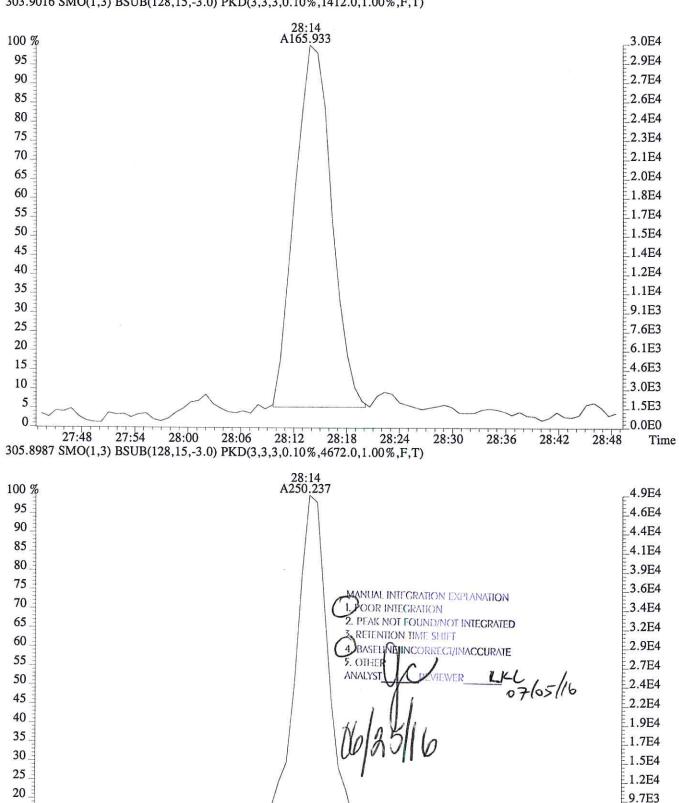
E1600326.R1 277 of 327

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



E1600326.R1 278 of 327

File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



15

10

5

0

27:48

27:54

28:00

28:06

28:18

28:24

28:30

28:36

28:42

28:12

7.3E3

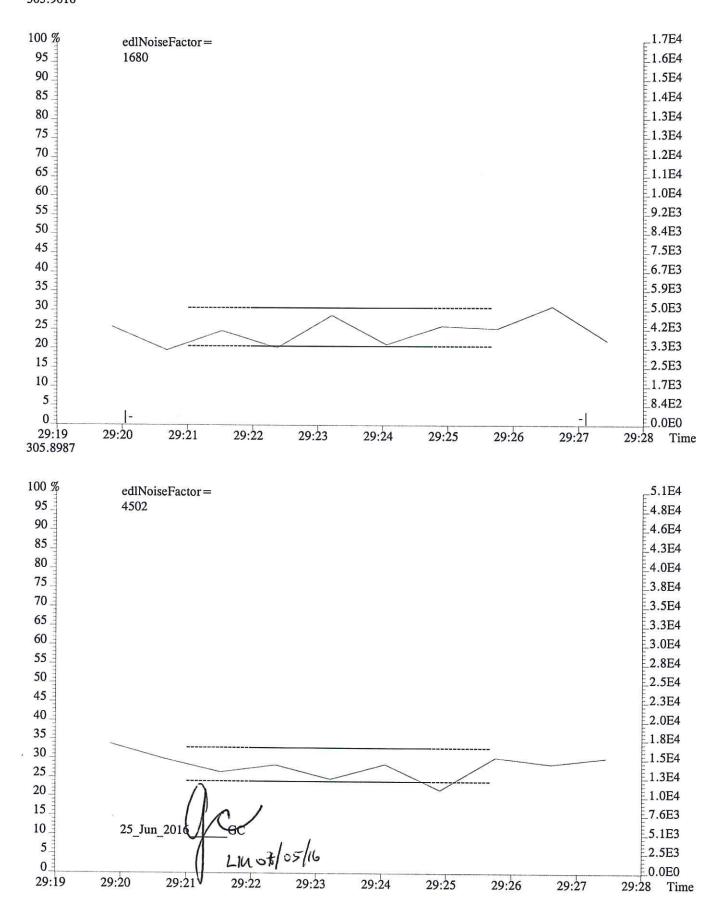
4.9E3

2.4E3

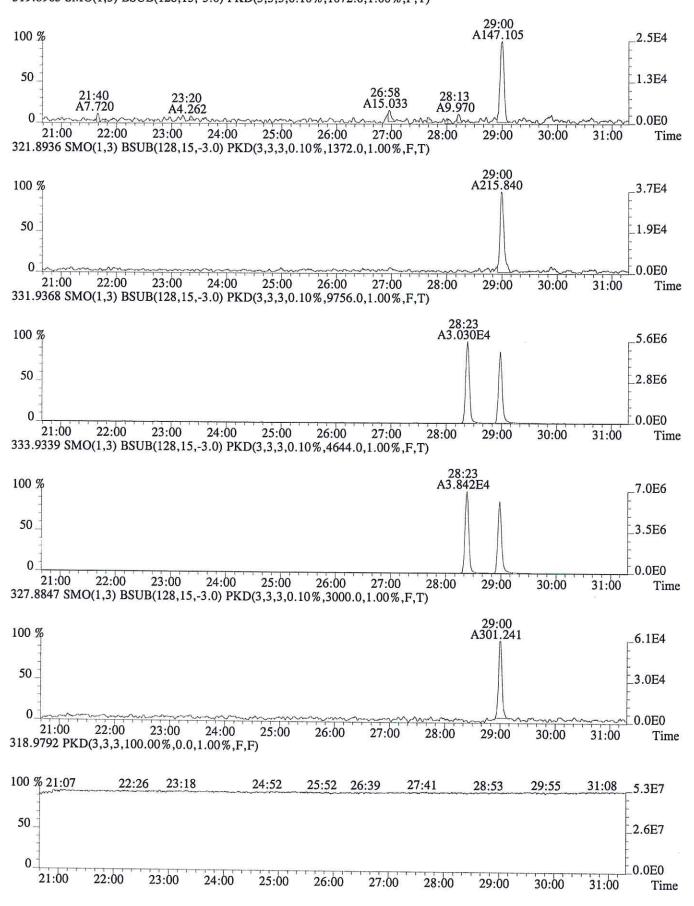
0.0E0

Time

28:48



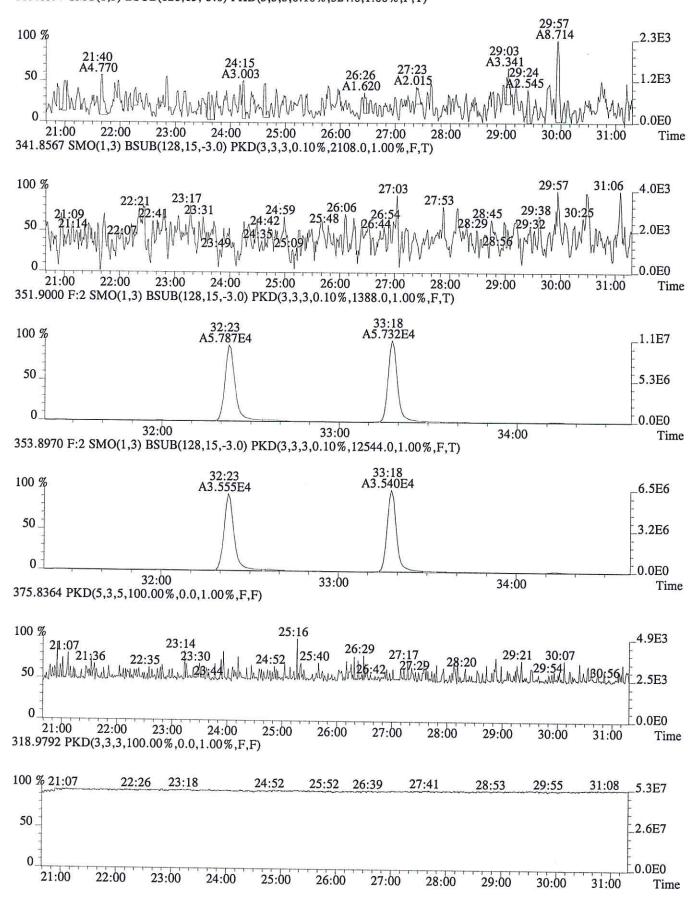
File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,T)



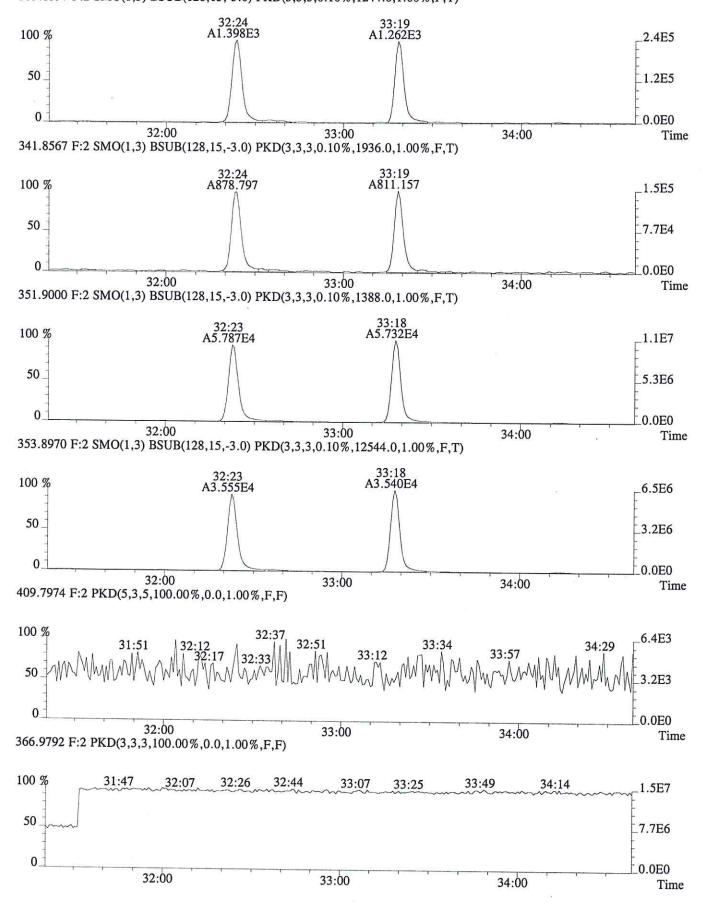
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E1600326.R1

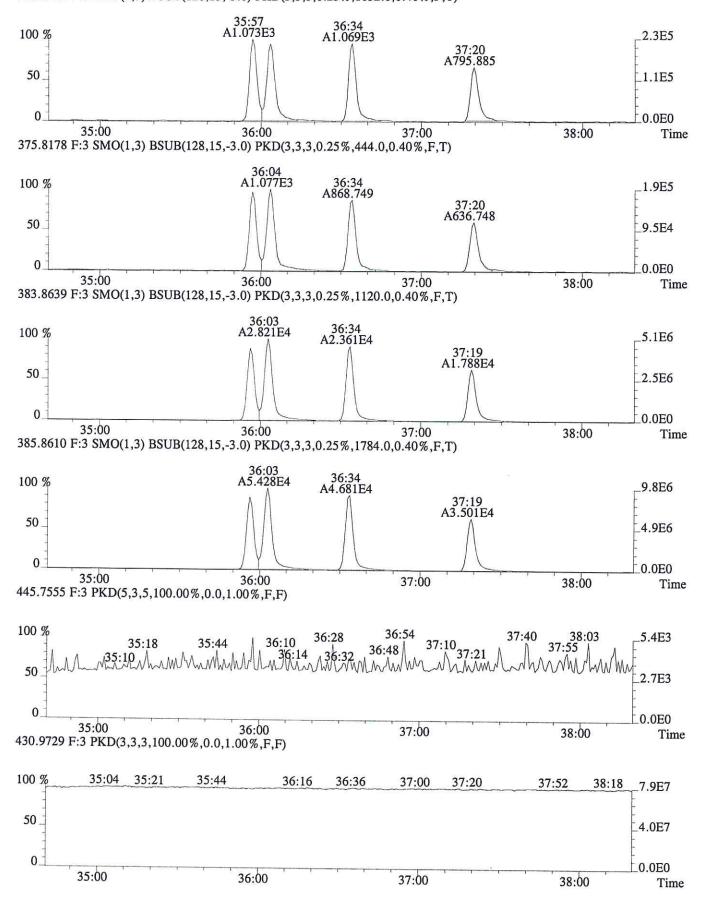
File:P603982 #1-756 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,524.0,1.00%,F,T)



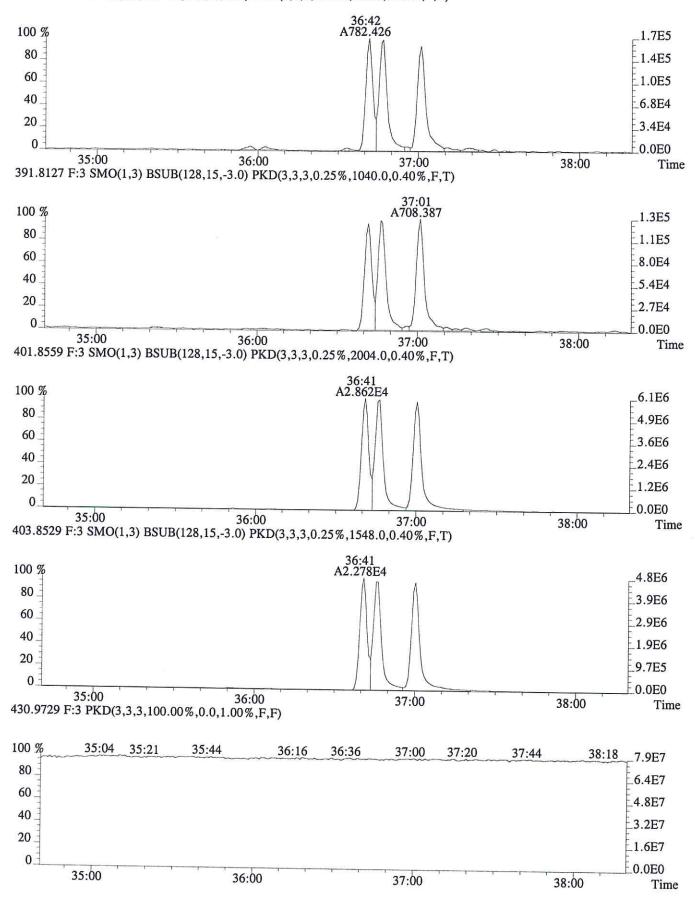
File:P603982 #1-298 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



File:P603982 #1-329 Acq:25-JUN-2016 10:06:18 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS1 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



Samp: 1

CLIENT ID. 173637

Acquired: 25-JUN-16 11:09:26

0.52 yes

0.77 yes

0.79 yes

1.29 yes

0.80 yes

no

yes

no

no

no

no

0.875

1.325

0.929

0.945

Processed: 25-JUN-16 13:05:01 Sample ID: CS2 Typ Name RT-1 Resp 1 Resp 2 Ratio Meet Mod? RRF 1 Unk 2,3,7,8-TCDF | 28:16 6.799e+02 8.314e+02 0.82 yes 0.957 3 Unk 2,3,4,7,8-PeCDF | 33:19 4.821e+03 3.158e + 031.53 yes 0.929 no 11 Unk 2,3,7,8-TCDD 29:01 5.343e+020.79 yes 6.795e+02 1.048 no 18 IS 13C-2,3,7,8-TCDF | 28:14 3.694e + 044.596e+04 0.80 yes no 1.283 19 IS 13C-1,2,3,7,8-PeCDF | 32:23 5.402e+04 3.368e+04 1.60 yes no 1.381 20 IS 13C-2,3,4,7,8-PeCDF | 33:19 5.416e+04 3.394e+041.60 yes no 1.371

1.659e+04

2.625e+04

2.934e+04

3.239e+04

1.225e+03

4.274e+04

3.192e+04

5.355e+04

3.404e+04

3.730e+04

2.513e+04

Inj: 1

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Run #2

24 IS

26 IS

27 IS

33 RS/RT

34 RS/RT

35 C/Up

Filename P603983

13C-1,2,3,7,8,9-HxCDF 37:20

13C-1,2,3,7,8,9-HxCDD 37:01

13C-1,2,3,4-TCDF 26:59

13C-2,3,7,8-TCDD 29:00

13C-1,2,3,4-TCDD 28:24

37C1-2,3,7,8-TCDD 29:00

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173637

Samp: 1 Inj: 1 Run #2 Filename P603983 Acquired: 25-JUN-16 11:09:26

Processed: 25-JUN-16 13:05:01 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.17e+05	1.48e+03	7.9e+01	1.52e+05	4.36e+03	3.5e+01
3	2,3,4,7,8-PeCDF	8.88e+05	2.05e+03	4.3e+02	5.85e+05	3.36e+03	1.7e+02
11	2,3,7,8-TCDD	9.48e+04	1.46e+03	6.5e+01	1.18e+05	1.44e+03	8.2e+01
18	13C-2,3,7,8-TCDF	6.40e+06	6.69e+03	9.6e+02	7.94e+06	4.12e+03	1.9e+03
19	13C-1,2,3,7,8-PeCDF	9.08e+06	1.90e+04	4.8e+02	5.70e+06	9.55e+03	6.0e+02
20	13C-2,3,4,7,8-PeCDF	9.94e+06	1.90e+04	5.2e+02	6.21e+06	9.55e+03	6.5e+02
24	13C-1,2,3,7,8,9-HxCDF	2.98e+06	1.04e+03	2.9e+03	5.77e+06	2.19e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.93e+06	6.69e+03	1.0e+03	8.59e+06	4.12e+03	2.1e+03
						20	
27	13C-2,3,7,8-TCDD	4.74e+06	9.28e+03	5.1e+02	6.17e+06	3.62e+03	1.7e+03
33	13C-1,2,3,4-TCDD	5.42e+06	9.28e+03	5.8e+02	6.85e+06	3.62e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	5.54e+06	2.31e+03	2.4e+03	4.38e+06	1.60e+03	2.7e+03
35	37C1-2,3,7,8-TCDD	2.19e+05	2.42e+03	9.0e+01			

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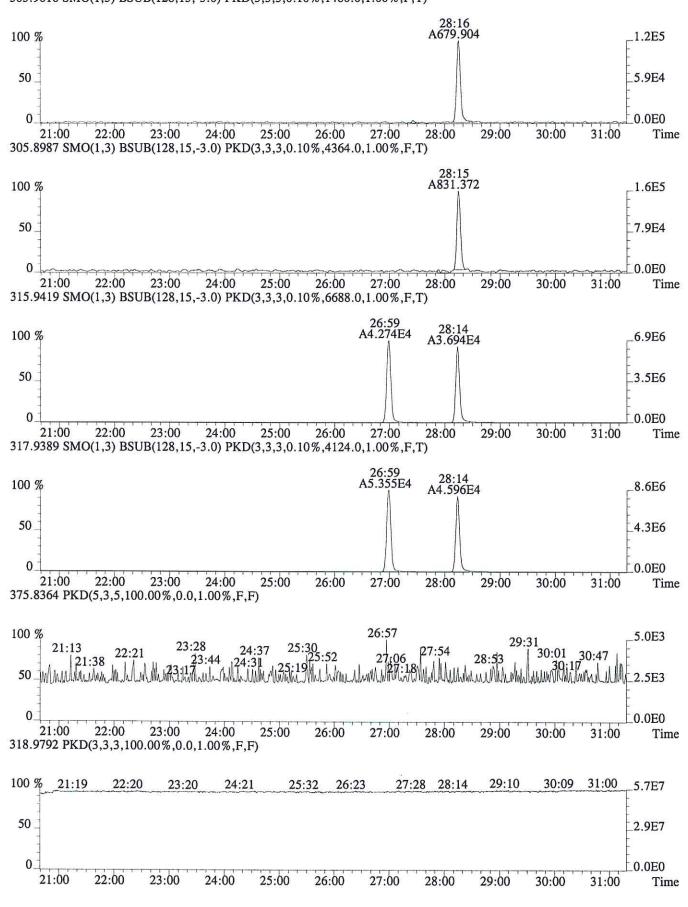
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Houston, TX 77099

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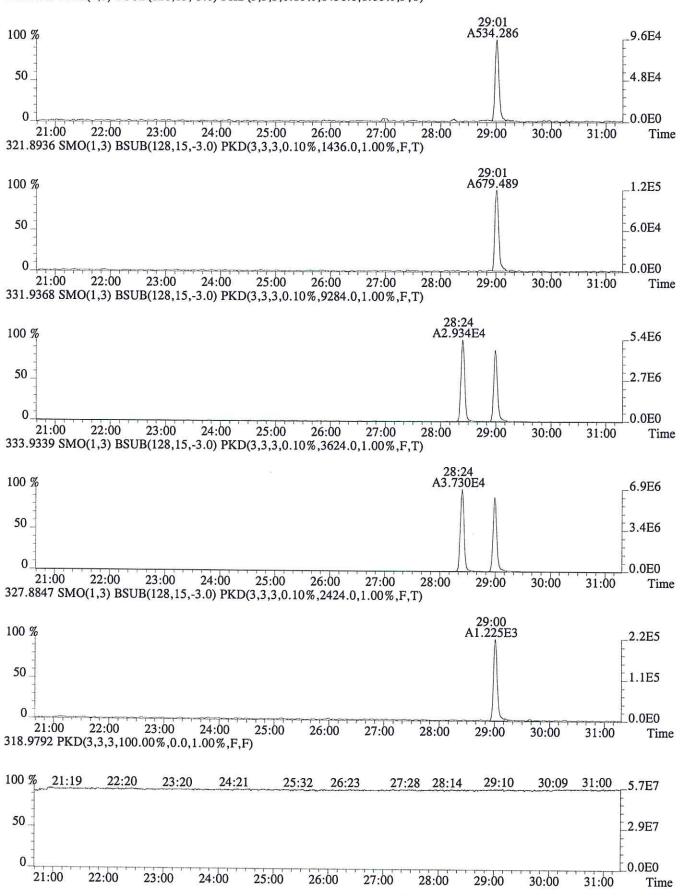
www.alsglobal.com

E1600326.R1 287 of 327 File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1480.0,1.00%,F,T)

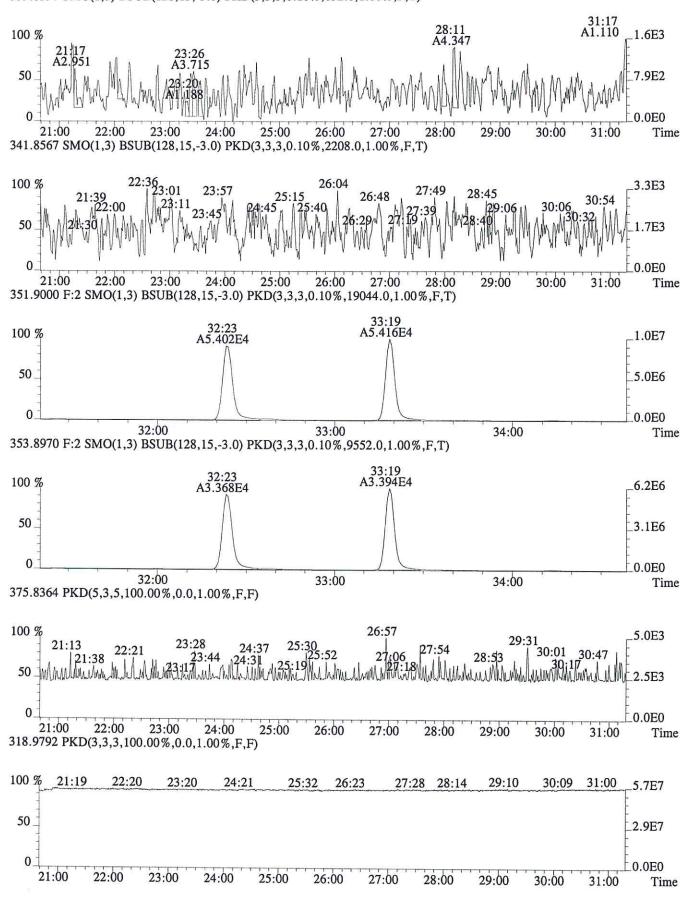


E1600326.R1 288 of 327

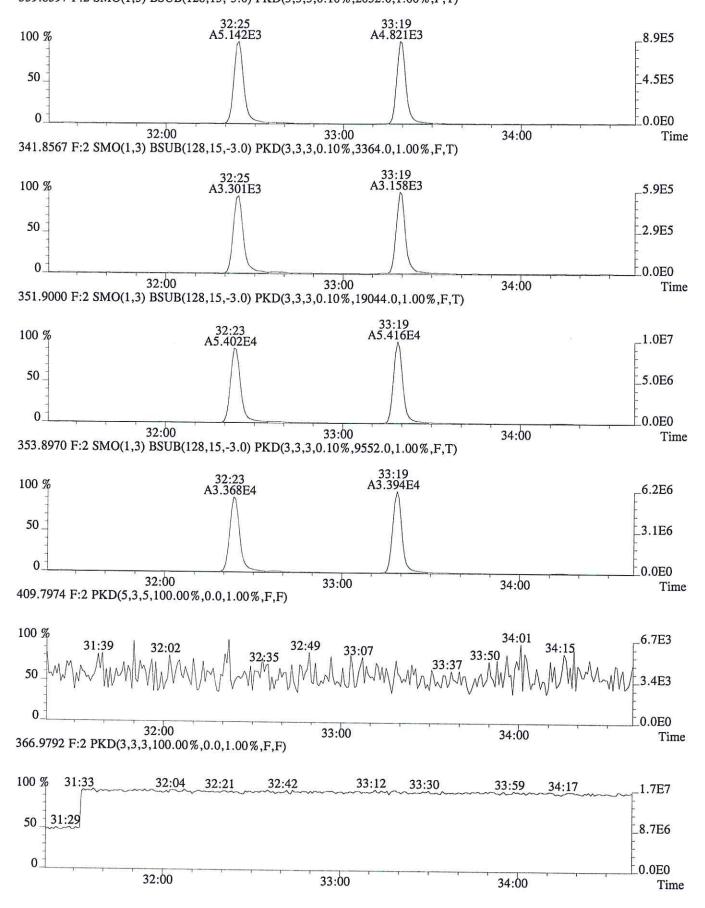
File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



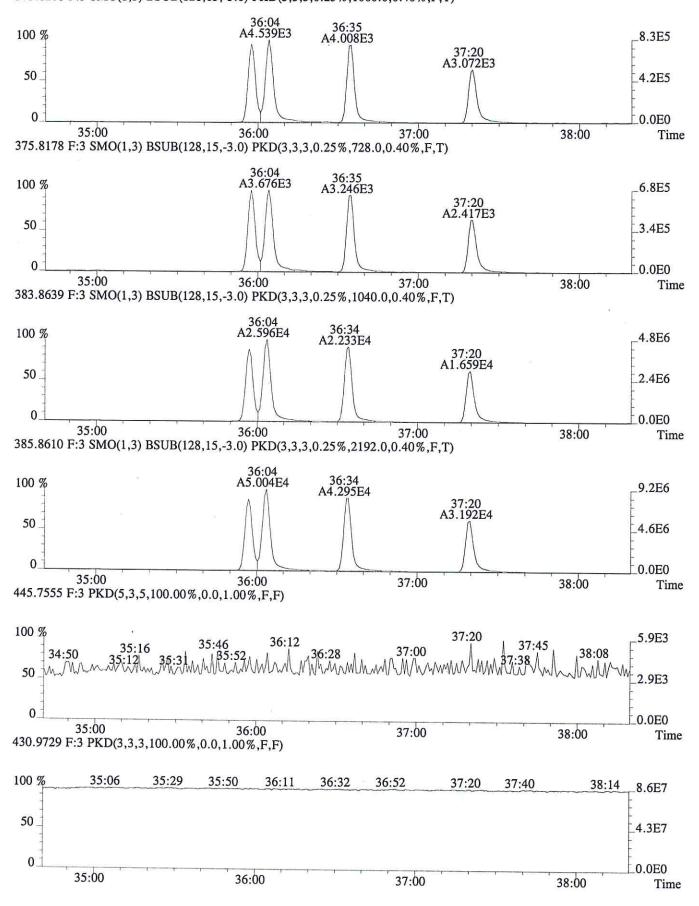
File:P603983 #1-756 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,T)



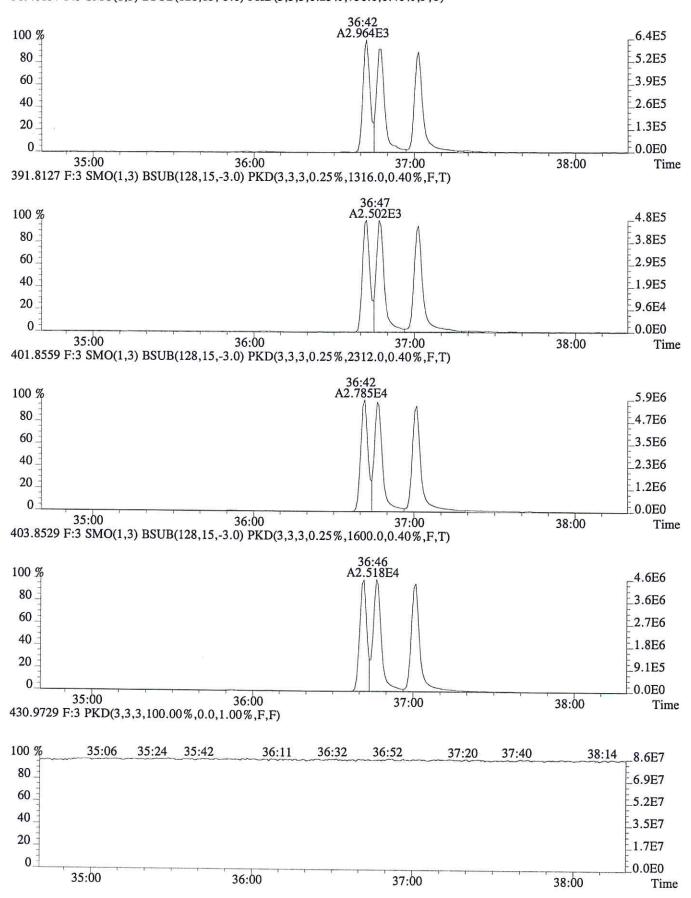
File:P603983 #1-298 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2052.0,1.00%,F,T)



File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



File:P603983 #1-329 Acq:25-JUN-2016 11:09:26 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS2 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



CLIENT ID. 173638

Run #3	Filename P603984	Samp:	1 Inj: 1	Acquired:	25-JUN-16 1	.1:55:54	l.
Processed	l: 25-JUN-16 13:05:01	Sa	ample ID: CS3				
			-				
Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
-12	Name	KILI	Kesp I	Kesp z	Racio Meet	Moa:	KKL
7 77 1					1 2 221	1	18 805
1 Unk	2,3,7,8-TCDF	1 1	6.879e+03	8.895e+03	0.77 yes	no	0.957
3 Unk	2,3,4,7,8-PeCDF	33:19	4.946e+04	3.185e+04	1.55 yes	no	0.929
11 Unk	2,3,7,8-TCDD	29:00	5.200e+03	6.636e+03	0.78 yes	no	1.048
18 IS	13C-2,3,7,8-TCDF	28:13	7.245e+04	9.072e+04	0.80 yes	no	1.283
19 IS	13C-1,2,3,7,8-PeCDF	32:23	1.083e+05	6.772e+04	1.60 yes	no	1.381
20 IS	13C-2,3,4,7,8-PeCDF	33:18	1.074e+05	6.710e+04	1.60 yes	no	1.371
24 IS	13C-1,2,3,7,8,9-HxCDF	37:19	3.456e+04	6.770e+04	0.51 yes	no	0.875
26 IS	13C-1,2,3,4-TCDF	26:58	5.981e+04	7.456e+04	0.80 yes	yes	1.325
	and all and the second	The same of the sa			112	1200	1 - 1 - 1 - 1
27 IS	13C-2,3,7,8-TCDD	28.59	5.212e+04	6.669e+04	0.78 yes	lno	0.929
						1	
33 RS/RT	13C-1,2,3,4-TCDD		5.576e+04	7.031e+04	0.79 yes	no] -
34 RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	6.329e+04	5.113e+04	1.24 yes	no	-
35 C/Up	37Cl-2,3,7,8-TCDD	29:00	1.213e+04		a 11.70	no	0.945
		1.00				1	

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173638

Run #3 Filename P603984 Samp: 1 Inj: 1 Acquired: 25-JUN-16 11:55:54 Processed: 25-JUN-16 13:05:01 LAB. ID: CS3 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 |

	Name	Signal I	Noise I	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	1.22e+06	1.06e+03	1.2e+03	1.59e+06	4.41e+03	3.6e+02
3	2,3,4,7,8-PeCDF	9.20e+06	1.30e+04	7.1e+02	6.00e+06	9.93e+03	6.0e+02
11	2,3,7,8-TCDD	9.42e+05	1.36e+03	6.9e+02	1.22e+06	1.25e+03	9.7e+02
18	13C-2,3,7,8-TCDF	1.28e+07	4.69e+03	2.7e+03	1.60e+07	3.17e+03	5.0e+03
19	13C-1,2,3,7,8-PeCDF	1.89e+07	2.06e+04	9.2e+02	1.20e+07	1.57e+04	7.6e+02
20	13C-2,3,4,7,8-PeCDF	2.04e+07	2.06e+04	9.9e+02	1.28e+07	1.57e+04	8.2e+02
24	13C-1,2,3,7,8,9-HxCDF	6.60e+06	2.15e+03	3.1e+03	1.28e+07	2.19e+03	5.8e+03
26	13C-1,2,3,4-TCDF	9.83e+06	4.69e+03	2.1e+03	1.24e+07	3.17e+03	3.9e+03
					,		
27	13C-2,3,7,8-TCDD	9.62e+06	9.05e+03	1.1e+03	1.23e+07	4.67e+03	2.6e+03
33	13C-1,2,3,4-TCDD	1.05e+07	9.05e+03	1.2e+03	1.32e+07	4.67e+03	2.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.20e+07	1.94e+03	6.2e+03	9.53e+06	1.50e+03	6.4e+03
35	37Cl-2,3,7,8-TCDD	2.22e+06	2.64e+03	8.4e+02		on one season see	

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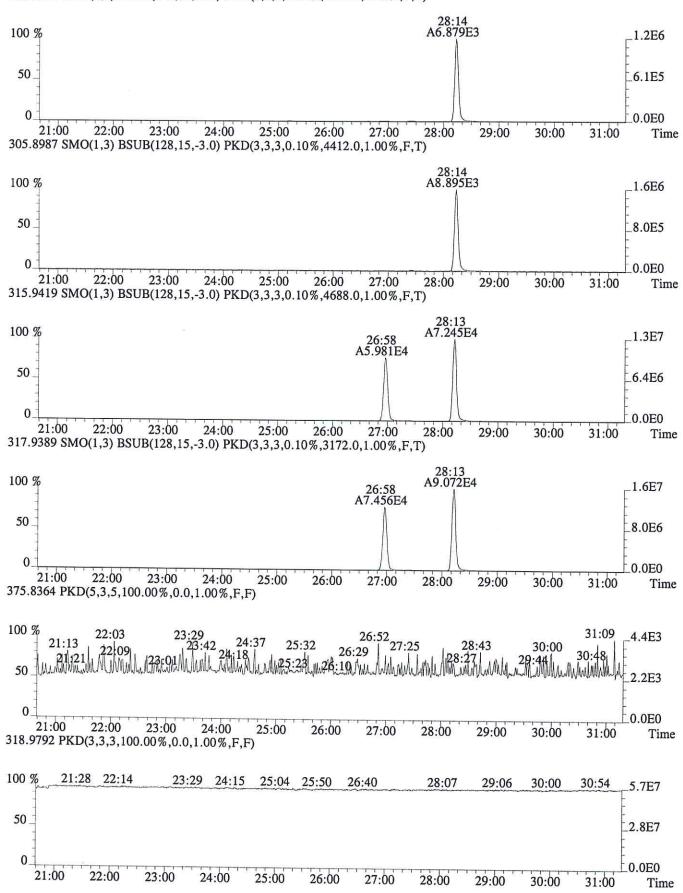
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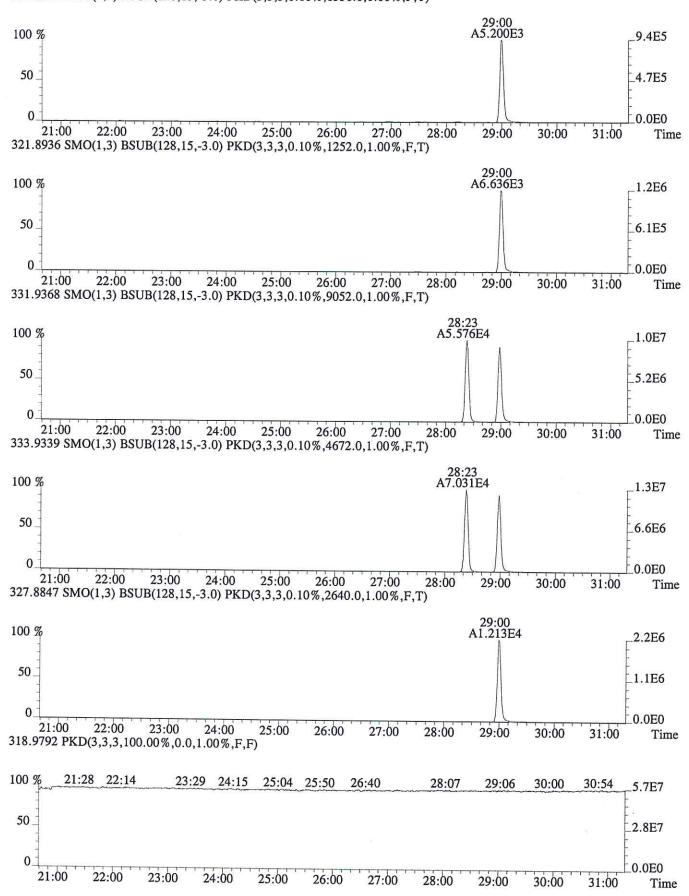
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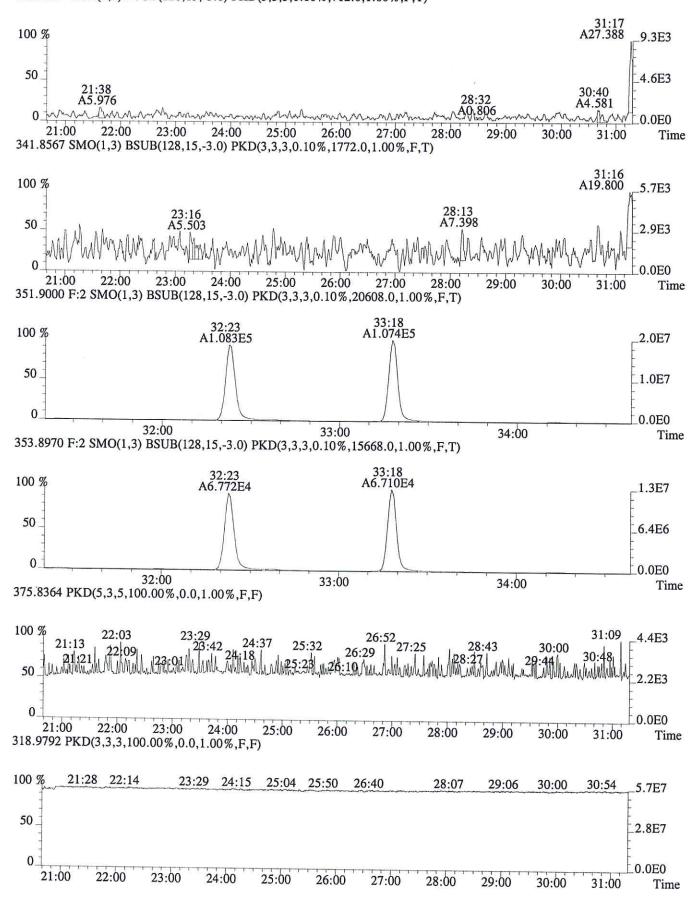
E1600326.R1 295 of 327 File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)



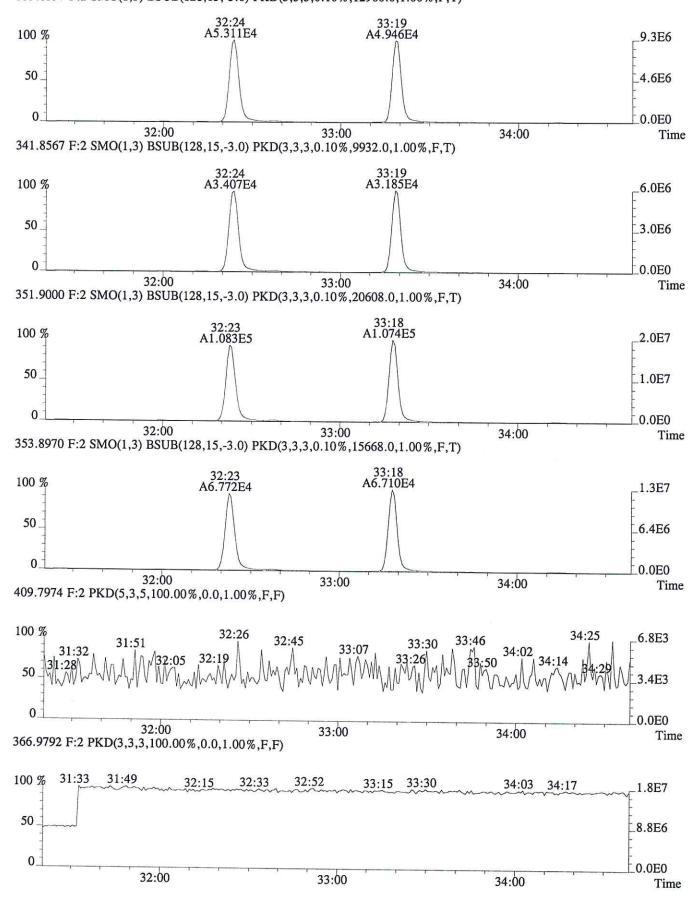
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



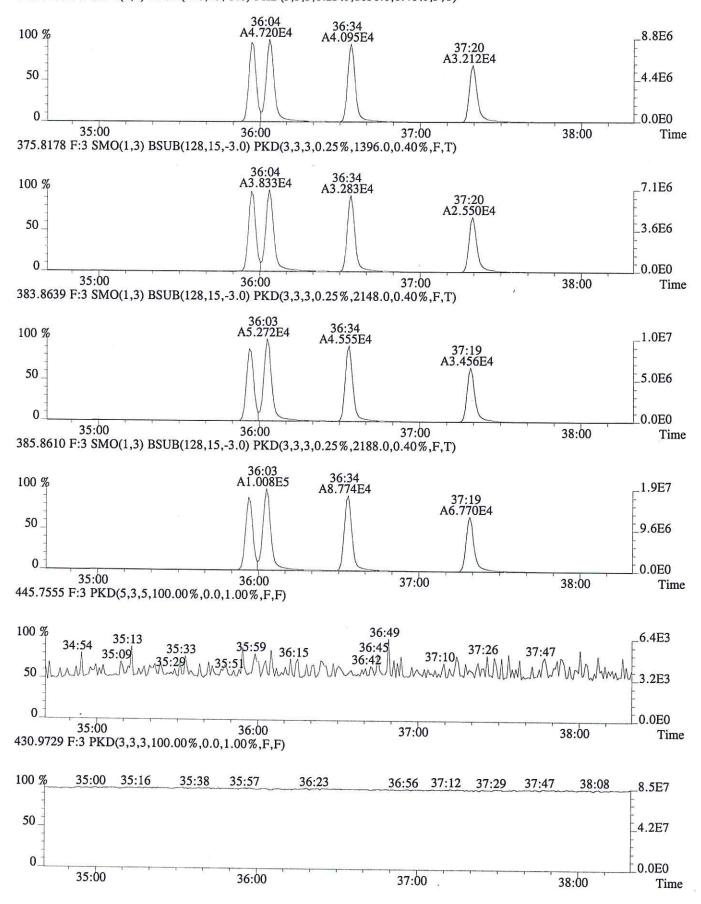
File:P603984 #1-756 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



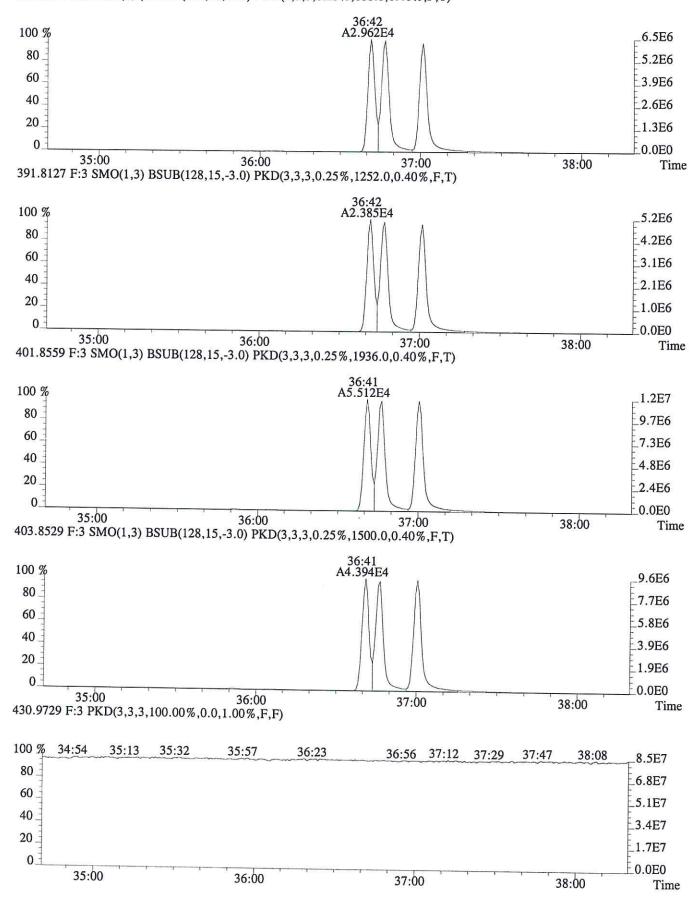
File:P603984 #1-298 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12960.0,1.00%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,T)



File:P603984 #1-329 Acq:25-JUN-2016 11:55:54 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



CLIENT ID. 173639

Run #4 Filename P603985 Samp: 1 Inj: 1 Acquired: 25-JUN-16 12:52:51 Processed: 25-JUN-16 15:59:58 Sample ID: CS4

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
	Unk	2,3,7,8-TCDF	The second secon	1.595e+04	2.078e+04	0.77 yes	no	0.957
	Unk	2,3,4,7,8-PeCDF	Maria D. 12 (4)	1.157e+05	7.439e+04	1.56 yes	no	0.929
	Unk	2,3,7,8-TCDD	S	1.221e+04	1.554e+04	0.79 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:14	4.217e+04	5.242e+04	0.80 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	6.222e+04	3.890e+04	1.60 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:19	6.169e+04	3.829e+04	1.61 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:19	2.000e+04	3.842e+04	0.52 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:59	4.265e+04	5.368e+04	0.79 yes	yes	1.325
	IS	13C-2,3,7,8-TCDD	29:00	3.003e+04	3.830e+04	0.78 yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:24	3.211e+04	4.076e+04	0.79 yes	no	i -
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.705e+04	2.987e+04	1.24 yes	no	1-
35	C/Up	37C1-2,3,7,8-TCDD	29:00	2.794e+04			no	0.945

4

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

173639

Run #4 Filename P603985 Samp: 1 Inj: 1 Acquired: 25-JUN-16 12:52:51

00000 E					
Processed:	OF TITAL 16	1 5 - 50 - 50	T 7 D	TD	001
Processed:	72-UUM-T0	10:09:08	LAB.	1 1 :	1.54

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2 S	/N Rat.2
1	2,3,7,8-TCDF	2.81e+06	1.30e+03	2.2e+03	3.64e+06	4.14e+03	8.8e+02
3	2,3,4,7,8-PeCDF	2.21e+07	2.52e+04	8.8e+02	1.43e+07	2.29e+04	6.2e+02
11	2,3,7,8-TCDD	2.23e+06	1.02e+03	2.2e+03	2.90e+06	1.31e+03	2.2e+03
18	13C-2,3,7,8-TCDF	7.32e+06	6.01e+03	1.2e+03	9.03e+06	4.38e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	1.09e+07	1.48e+04	7.4e+02	6.85e+06	8.31e+03	8.2e+02
20	13C-2,3,4,7,8-PeCDF	1.18e+07	1.48e+04	8.0e+02	7.28e+06	8.31e+03	8.8e+02
24	13C-1,2,3,7,8,9-HxCDF	3.79e+06	8.16e+02	4.6e+03	7.39e+06	2.79e+03	2.6e+03
26	13C-1,2,3,4-TCDF	6.97e+06	6.01e+03	1.2e+03	8.78e+06	4.38e+03	2.0e+03
				9		•	
27	13C-2,3,7,8-TCDD	5.43e+06	9.69e+03	5.6e+02	6.86e+06	4.18e+03	1.6e+03
33	13C-1,2,3,4-TCDD	5.94e+06	9.69e+03	6.1e+02	7.48e+06	4.18e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	6.80e+06	2.05e+03	3.3e+03	5.47e+06	2.34e+03	2.3e+03
35	37Cl-2,3,7,8-TCDD	5.21e+06	2.06e+03	2.5e+03			

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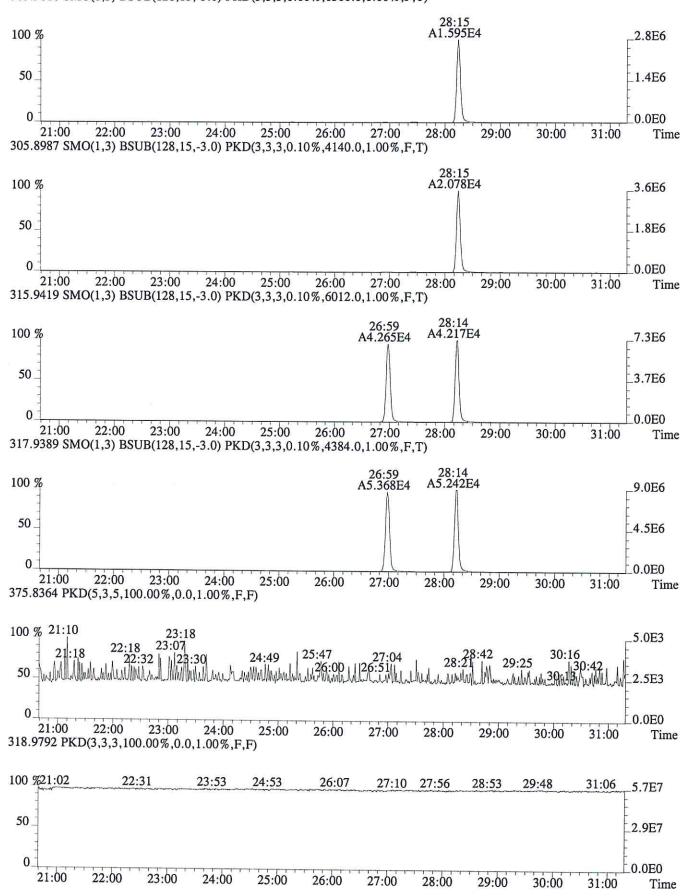
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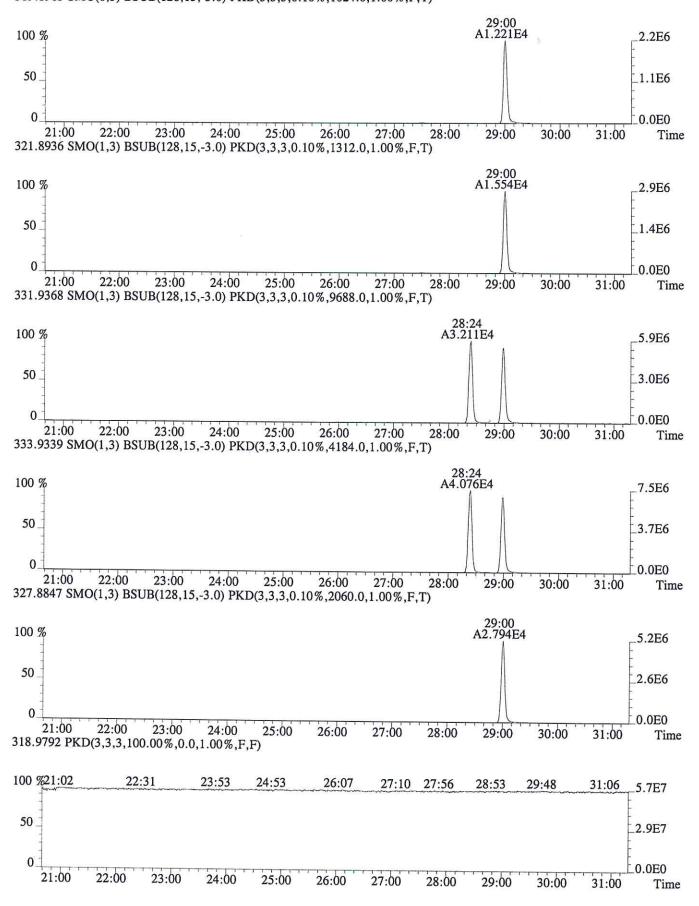
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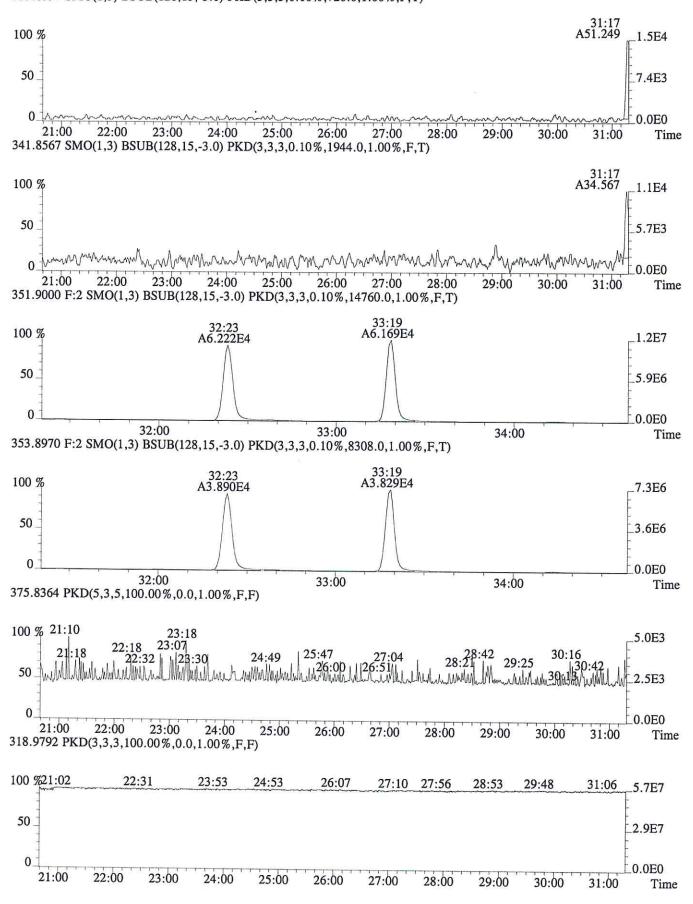
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



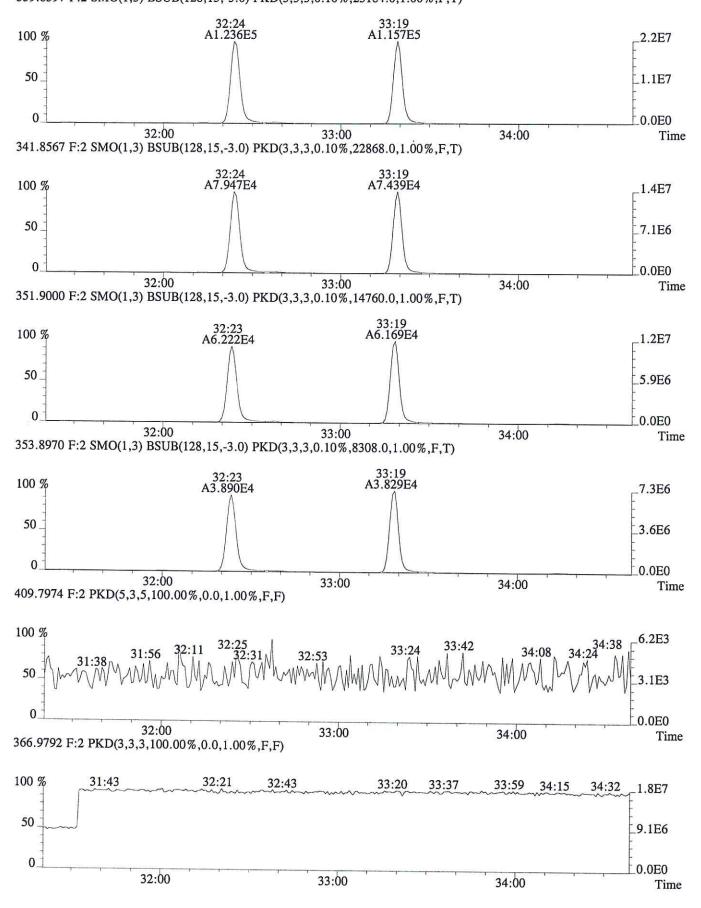
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



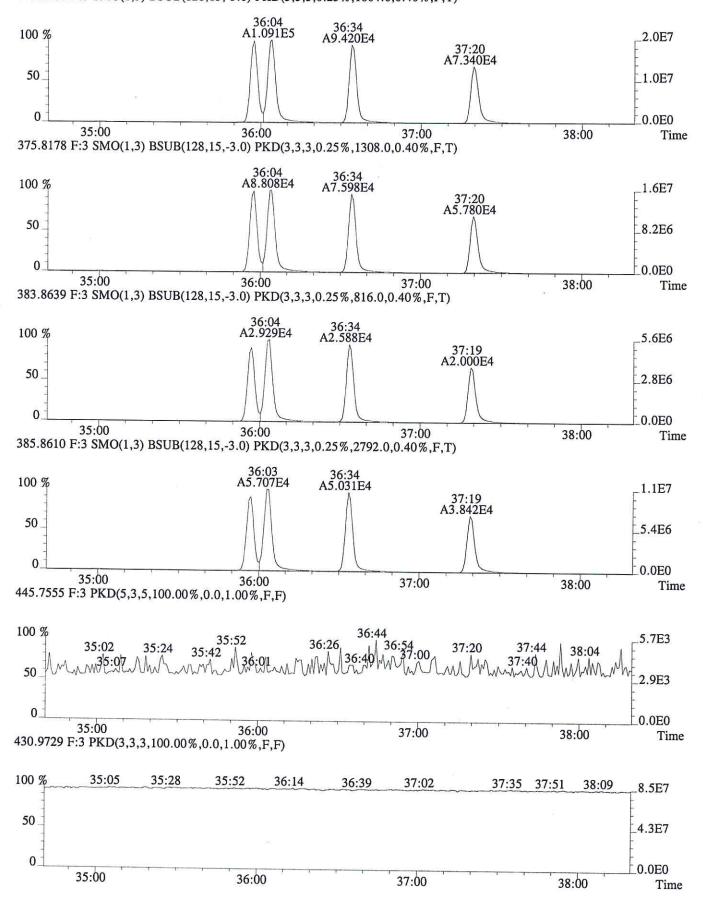
File:P603985 #1-756 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,T)



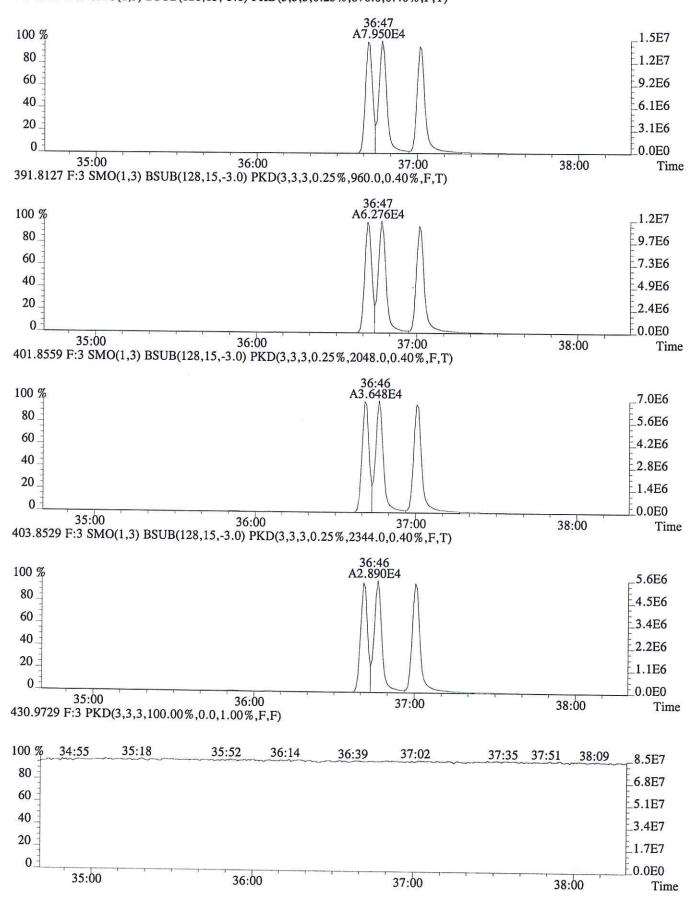
File:P603985 #1-298 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25184.0,1.00%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1804.0,0.40%,F,T)



File:P603985 #1-329 Acq:25-JUN-2016 12:52:51 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS4 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)



CLIENT ID. 173640

Run #5 Filename P603986 Samp: 1 Inj: 1 Acquired: 25-JUN-16 13:45:46 Processed: 25-JUN-16 15:59:59 Sample ID: CS5

		127						
	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
	Unk Unk	2,3,7,8-TCDF 2,3,4,7,8-PeCDF	Contract to the contract to th	8.193e+04 6.139e+05	1.059e+05 3.954e+05	0.77 yes 1.55 yes	no no	0.957
11	Unk	2,3,7,8-TCDD	29:00	6.435e+04	8.269e+04	0.78 yes	no	1.048
18	IS	13C-2,3,7,8-TCDF	28:13	4.256e+04	5.313e+04	0.80 yes	no	1.283
19	IS	13C-1,2,3,7,8-PeCDF	32:23	6.522e+04	4.053e+04	1.61 yes	no	1.381
20	IS	13C-2,3,4,7,8-PeCDF	33:18	6.412e+04	4.053e+04	1.58 yes	no	1.371
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	2.154e+04	4.185e+04	0.51 yes	no	0.875
26	IS	13C-1,2,3,4-TCDF	26:58	4.844e+04	6.029e+04	0.80 yes	yes	1.325
27	IS	13C-2,3,7,8-TCDD	28:59	3.050e+04	3.908e+04	0.78 yes	no	0.929
33	RS/RT	13C-1,2,3,4-TCDD	28:23	3.234e+04	4.086e+04	0.79 yes	no	-
	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	3.943e+04	3.156e+04	1.25 yes	no	i-
35	C/Up	37Cl-2,3,7,8-TCDD	29:00	1.476e+05		a on marks I design	no	0.945

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary

CLIENT ID. 173640

Run #5 Filename P603986 Samp: 1 Inj: 1 Acquired: 25-JUN-16 13:45:46 Processed: 25-JUN-16 15:59:59 LAB. ID: CS5 Name | Signal 1 | Noise 1 | S/N Rat.1 | Signal 2 | Noise 2 | S/N Rat.2 | 1 2,3,7,8-TCDF | 1.48e+07 | 1.26e+03 | 1.2e+04 | 1.91e+07 | 4.39e+03 | 3 2,3,4,7,8-PeCDF | 1.21e+08 1.23e+05 | 9.8e+02 | 7.74e+07 | 7.44e+04 1.0e + 0311 2,3,7,8-TCDD 1.25e+07 1.75e+03 7.1e+03 1.59e+07 1.15e+03 1.4e + 0418 13C-2,3,7,8-TCDF 7.51e+06 5.53e+03 1.4e+03 9.32e+06 2.96e+03 3.1e + 0319 13C-1,2,3,7,8-PeCDF 1.19e+07 1.41e+04 8.4e+02 7.38e+06 7.98e+03 9.3e + 0220 13C-2,3,4,7,8-PeCDF 1.24e+07 1.41e+04 8.8e+02 7.76e+06 7.98e+03 9.7e + 0224 13C-1,2,3,7,8,9-HxCDF 4.21e+06 1.34e+03 3.1e+03 8.22e+06 2.01e+03 4.1e + 0326 13C-1,2,3,4-TCDF 8.06e+06 | 5.53e+03 | 1.5e+03 | 1.01e+07 | 2.96e+03 | 3.4e+03 27 13C-2,3,7,8-TCDD 5.76e+06 | 8.03e+03| 7.2e+02 7.36e+06 3.50e+03 2.1e + 0333 13C-1,2,3,4-TCDD 6.04e+06 8.03e+03 7.5e+02 7.69e+06 | 3.50e+03 | 2.2e+03 34 13C-1,2,3,7,8,9-HxCDD 7.59e+06 2.36e+03 | 3.2e+03 | 6.21e+06 | 1.56e+03 | 4.0e+03 35 37Cl-2,3,7,8-TCDD| 2.82e+07| 2.23e+03| 1.3e+04

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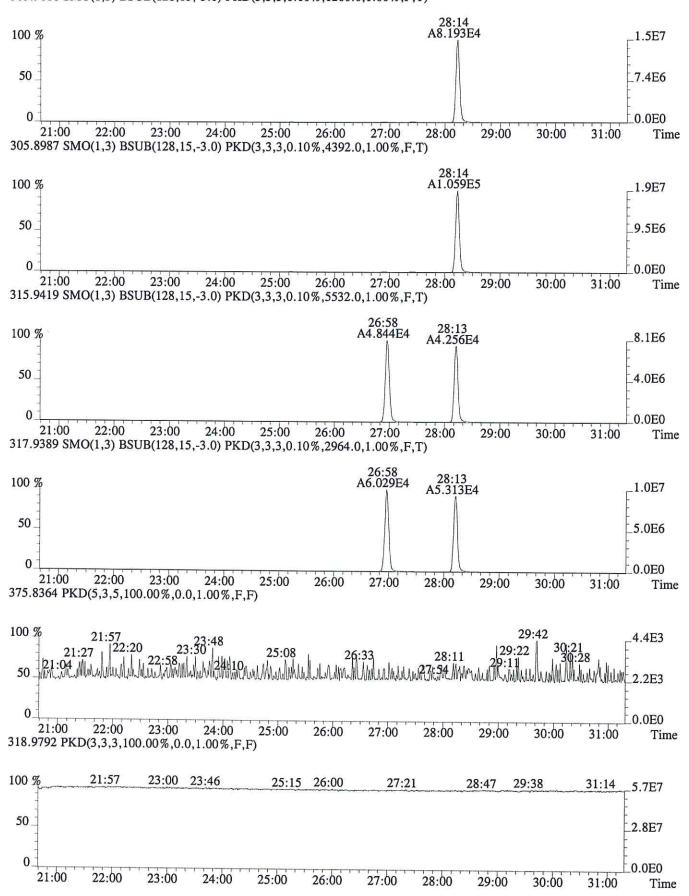
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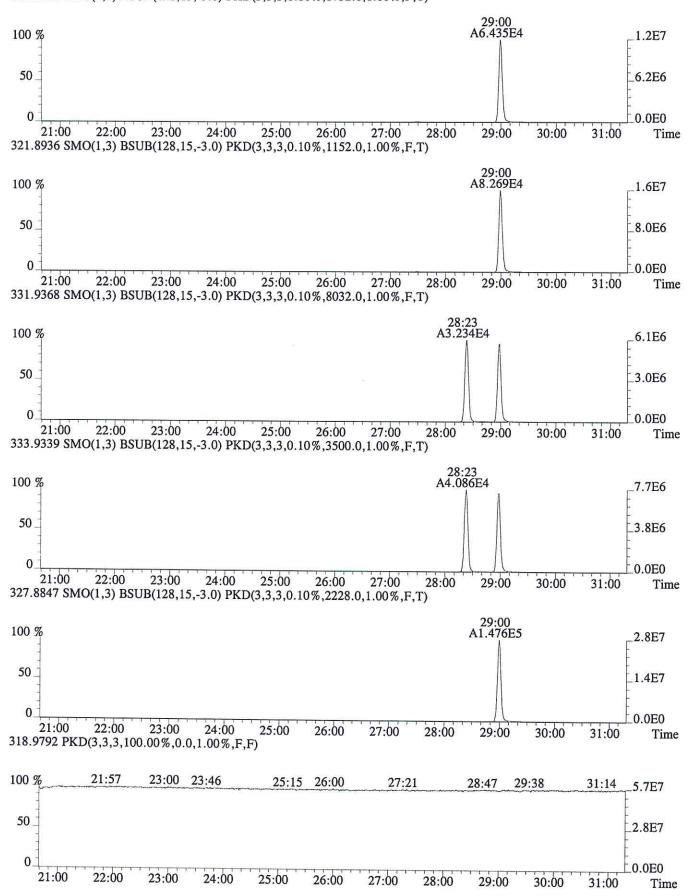
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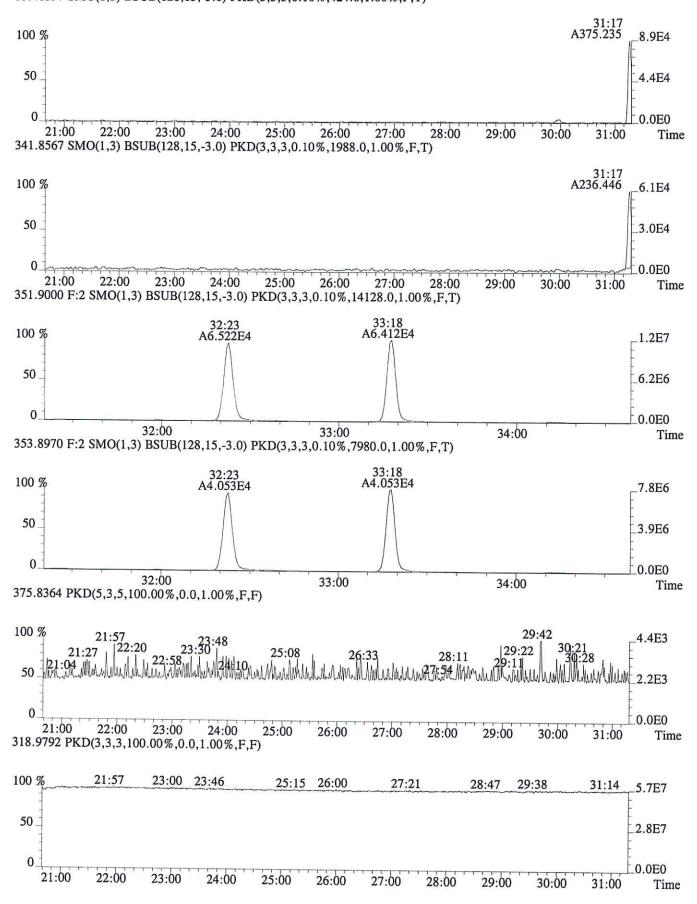
File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



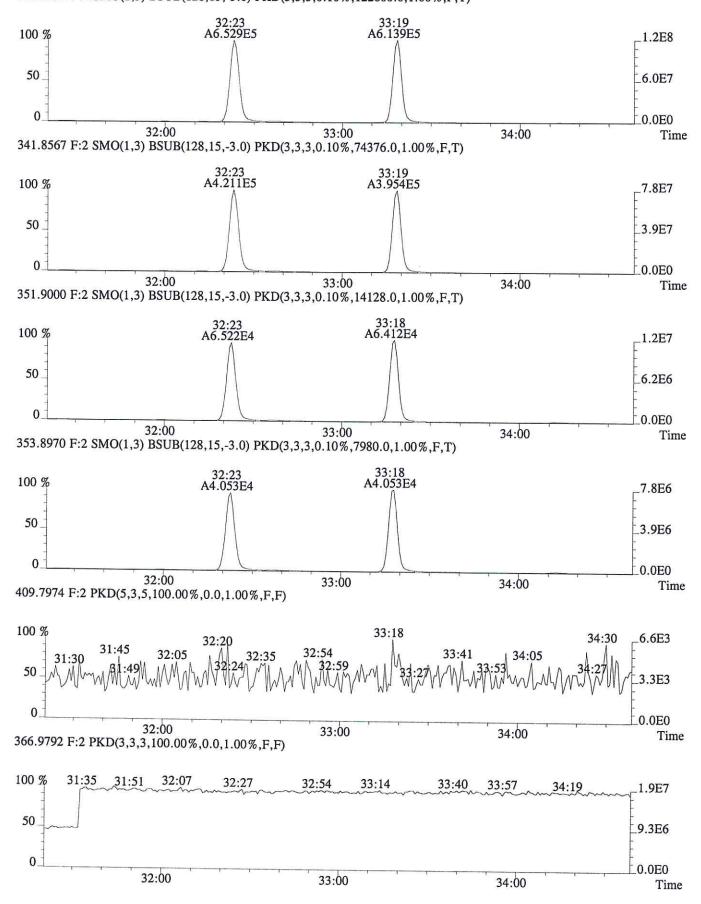
File:P603986 #1-756 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,T)



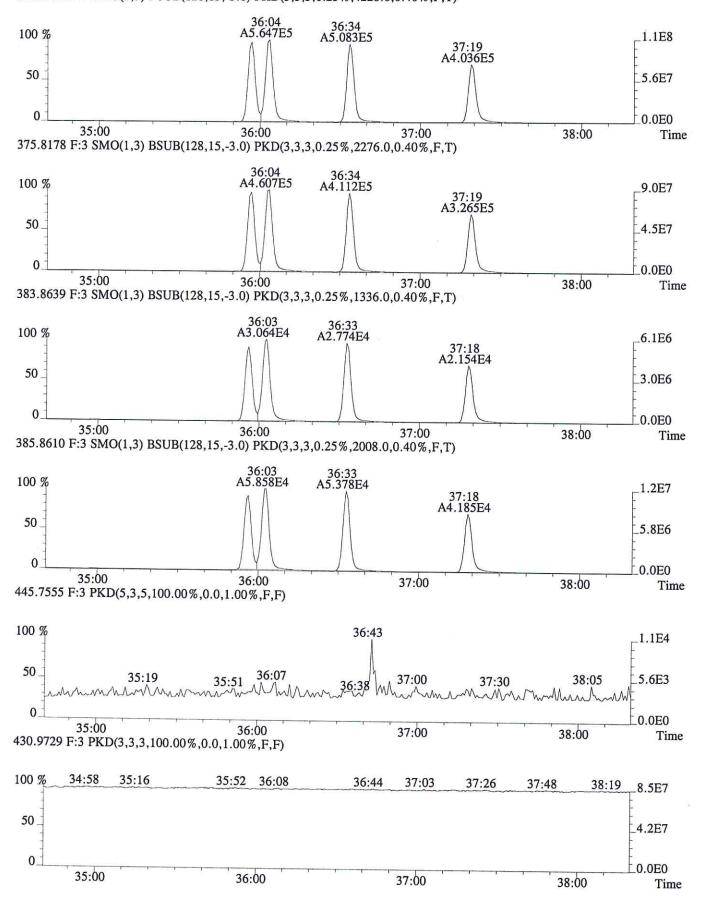
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E1600326.R1

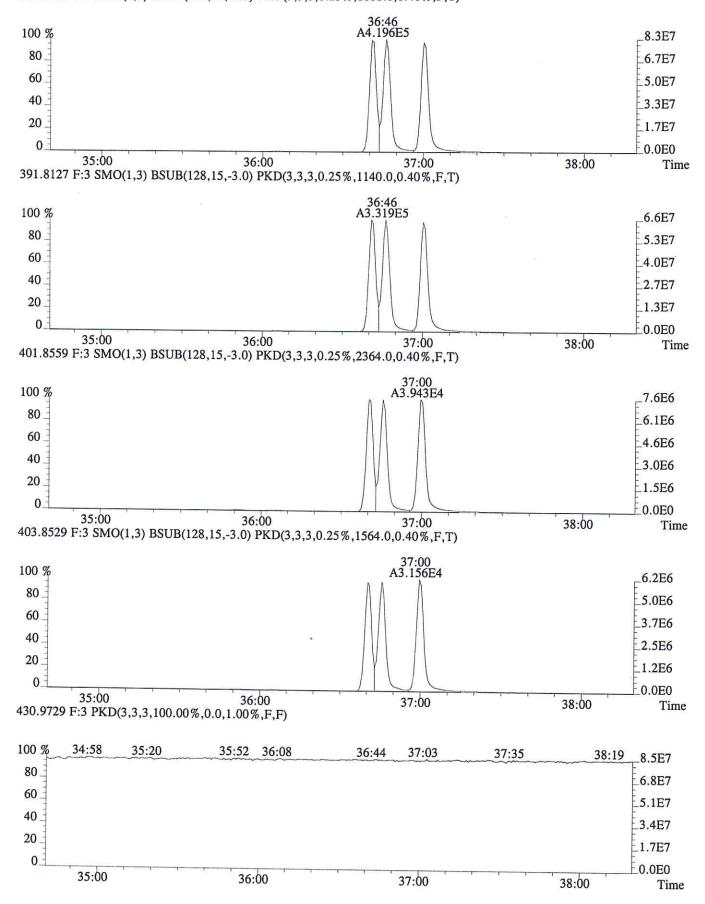
File:P603986 #1-298 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,122600.0,1.00%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4228.0,0.40%,F,T)



File:P603986 #1-329 Acq:25-JUN-2016 13:45:46 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS5 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.40%,F,T)



SPME

FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	4.8 3	.9 - 6.45	-4.8
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	5.0 4	.2 - 6.0	-0.5
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	26.6 2	0.5 - 30.5	6.3

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⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4,
Method 8290
12/2012
1613F4A.FRM

SPME

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 06/25/16

Instrument ID: E-HRMS-08

GC Column ID: DB-5MSUI

VER Data Filename: P603988

Analysis Date: 25-JUN-16 Time: 15:21:10

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	51	41 - 60.5	2.0
13C-1,2,3,4-TCDF	M/M+2	0.80	0.65-0.89	50	35.5-70	-0.6
13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF	M/M+2 M+2/M+4	0.79 1.60	0.65-0.89 1.32-1.78	50 51	35.5-70 38 - 65	0.5 1.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	48	38.5 - 65	-3.0
13C-1,2,3,7,8,9-HxCD	F	0.52	0.43-0.59	53	37 - 67.5	6.3
37Cl-2,3,7,8-TCDD				5	3.9 - 6.35	-0.2

(4)

12/2012 1613F4B.FRM

⁽¹⁾ See Table 8, Method 1613B, for m/z specifications.

⁽²⁾ Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

⁽³⁾ Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.

⁽⁴⁾ No ion abundance ratio; report concentration found.

⁽⁵⁾ The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

ALS ENVIRONMENTAL Sample Response Summary

CLIENT ID. CS3 2ND SOURCE

Run #6 Filename P603988 Samp: 1 Inj: 1 Acquired: 25-JUN-16 15:21:10 Processed: 26-JUN-16 09:08:05 Sample ID: CS3 2ND SOURCE

	Тур	Name	RT-1	Resp 1	Resp 2	Ratio Meet	Mod?	RRF
3 11 18	Unk Unk Unk IS	2,3,7,8-TCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD 13C-2,3,7,8-TCDF	33:19 29:00 28:13	4.564e+03 3.377e+04 3.506e+03 4.824e+04	5.813e+03 2.175e+04 4.480e+03 6.074e+04	0.79 yes 1.55 yes 0.78 yes 0.79 yes	no no no no	0.957 0.929 1.048 1.283
20 24	IS IS IS	13C-1,2,3,7,8-PeCDF 13C-2,3,4,7,8-PeCDF 13C-1,2,3,7,8,9-HxCDF 13C-1,2,3,4-TCDF	33:18 37:19	7.291e+04 6.894e+04 2.364e+04 4.958e+04	4.564e+04 4.348e+04 4.591e+04 6.170e+04	1.60 yes 1.59 yes 0.52 yes 0.80 yes	no no no yes	1.381 1.371 0.875 1.324
33 34	IS RS/RT RS/RT C/Up	13C-2,3,7,8-TCDD 13C-1,2,3,4-TCDD 13C-1,2,3,7,8,9-HxCDD 37C1-2,3,7,8-TCDD	28:23 37:00	3.515e+04 3.742e+04 4.269e+04 7.970e+03	4.490e+04 4.711e+04 3.208e+04	0.78 yes 0.79 yes 1.33 yes	no no no no	0.929 - - 0.945

ALS ENVIRONMENTAL -- HOUSTON HRMS 10450 Stancliff Rd., Suite 115

Houston, TX 77099

Telephone: (713)266-1599. Fax(713)266-0130

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ALS ENVIRONMENTAL Signal/Noise Height Ratio Summary CLIENT ID.

CLIENT ID.
CS3 2ND SOURCE

Run	#6 Filename P603988	Sam	p: 1 Ir	ıj: 1	Acquired:	25-JUN-16	15:21:10					
Proc	essed: 26-JUN-16 09:08	3:05	LAB. II	D: CS3 2ND	SOURCE							
	Name Signal 1 Noise 1 S/N Rat.1 Signal 2 Noise 2 S/N Rat.2											
1	2,3,7,8-TCDF	8.14e+05	1.32e+03	6.2e+02	1.04e+06	3.51e+03	3.0e+02					
3	2,3,4,7,8-PeCDF	6.56e+06	1.10e+04	6.0e+02	4.19e+06	7.55e+03	5.6e+02					
11	2,3,7,8-TCDD	6.55e+05	1.31e+03	5.0e+02	8.28e+05	1.41e+03	5.9e+02					
18	13C-2,3,7,8-TCDF	8.37e+06	4.79e+03	1.7e+03	1.05e+07	2.74e+03	3.8e+03					
19	13C-1,2,3,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.26e+06	1.14e+04	7.3e+02					
20	13C-2,3,4,7,8-PeCDF	1.33e+07	1.57e+04	8.5e+02	8.28e+06	1.14e+04	7.3e+02					
24	13C-1,2,3,7,8,9-HxCDF	4.54e+06	9.04e+02	5.0e+03	8.79e+06	3.13e+03	2.8e+03					
26	13C-1,2,3,4-TCDF	8.22e+06	4.79e+03	1.7e+03	1.03e+07	2.74e+03	3.7e+03					
27	13C-2,3,7,8-TCDD	6.41e+06	8.76e+03	7.3e+02	8.18e+06	3.96e+03	2.1e+03					
33	13C-1,2,3,4-TCDD	6.95e+06	8.76e+03	7.9e+02	8.65e+06	3.96e+03	2.2e+03					
34	13C-1,2,3,7,8,9-HxCDD	8.12e+06	2.13e+03	3.8e+03	6.38e+06	1.43e+03	4.5e+03					
35	37C1-2,3,7,8-TCDD	1.49e+06	1.75e+03	8.5e+02								

ALS ENVIRONMENTAL

10450 Stancliff Rd., Suite 115

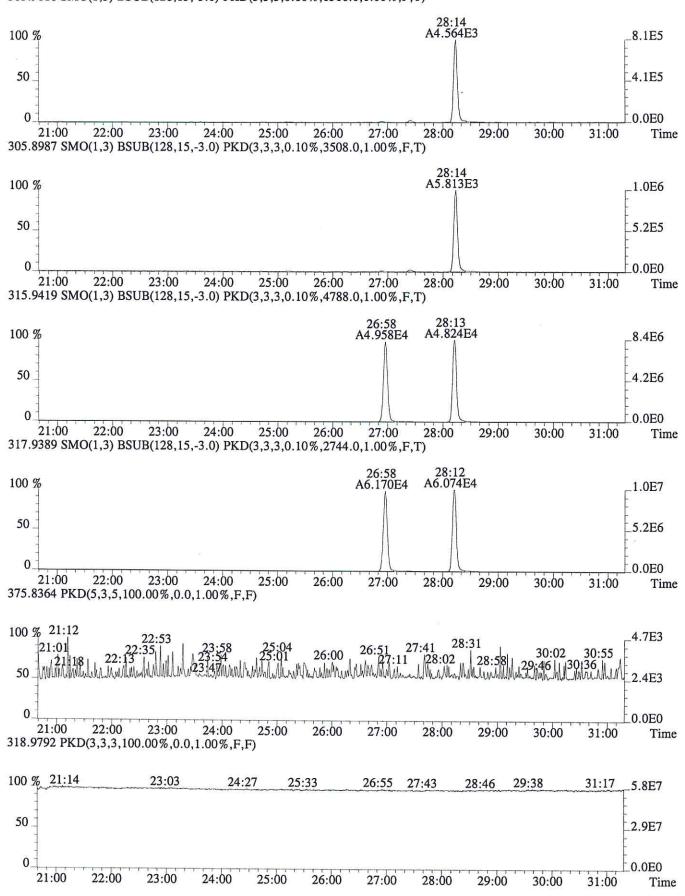
Houston, TX 77099

Office: (713)266-1599. Fax: (713)266-0130

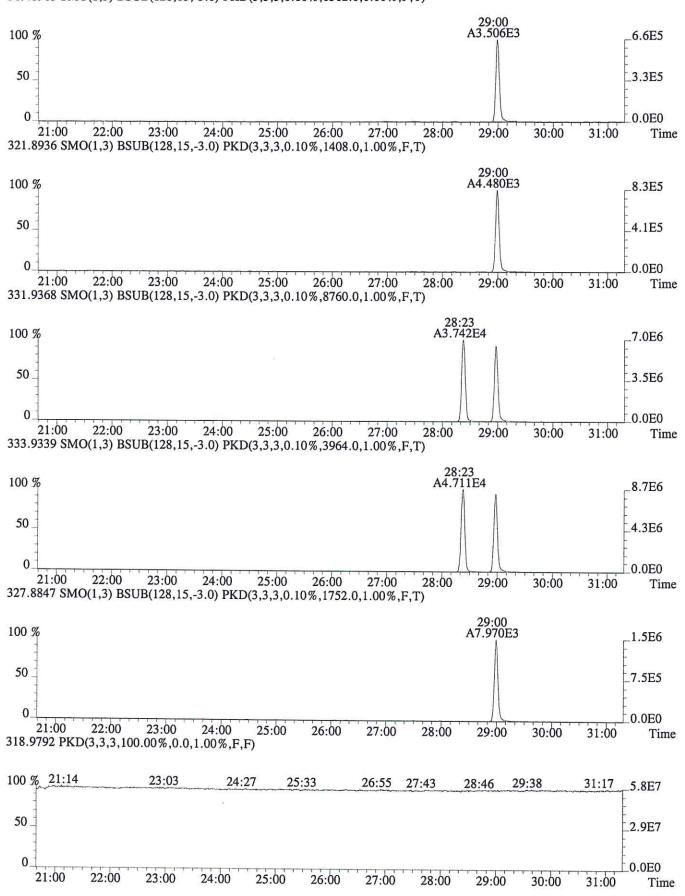
www.alsglobal.com

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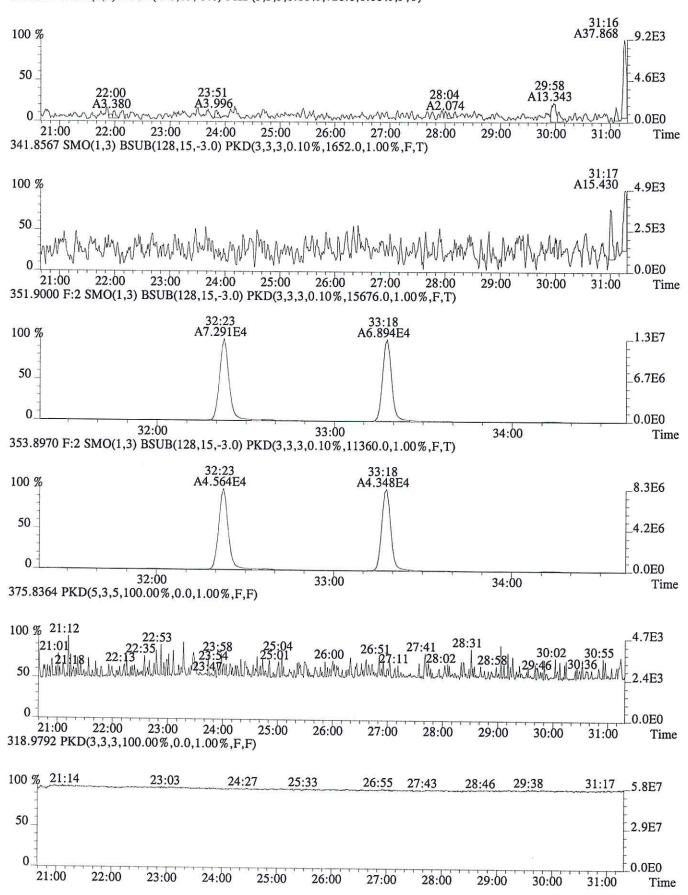
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1316.0,1.00%,F,T)



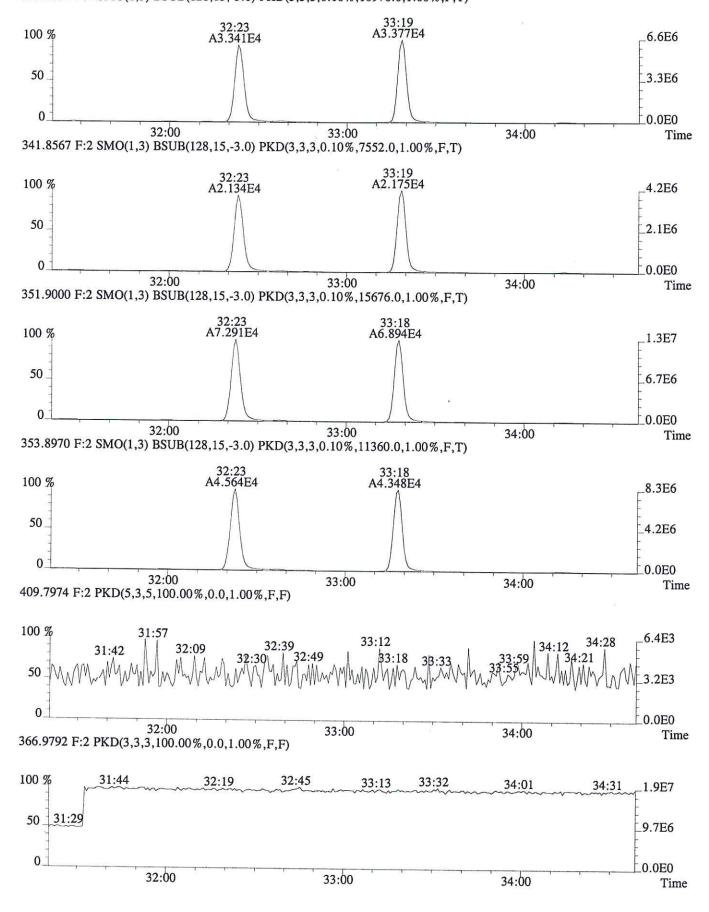
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



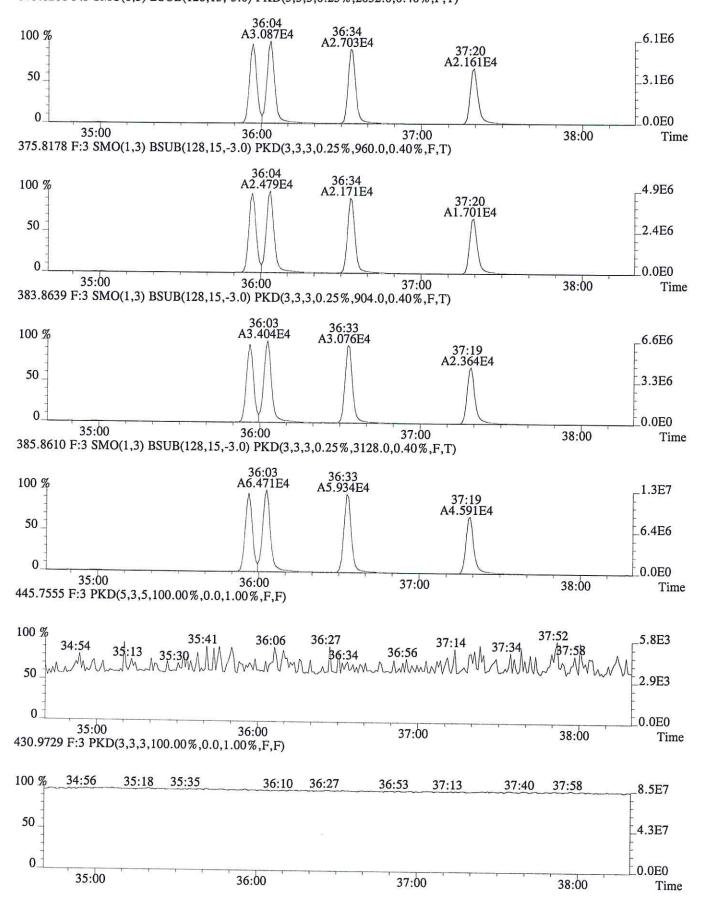
File:P603988 #1-756 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



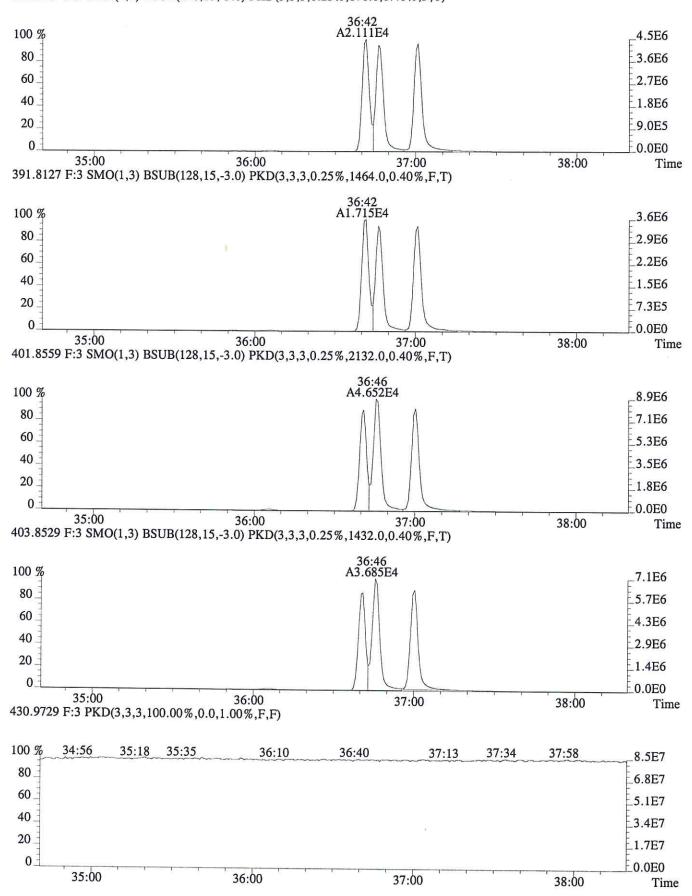
File:P603988 #1-298 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10976.0,1.00%,F,T)



File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2032.0,0.40%,F,T)



File:P603988 #1-329 Acq:25-JUN-2016 15:21:10 Probe EI+ Magnet SIR VG BioTech Mass spect£ Sample#1 Exp:CS3 2ND SOURCE 389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,T)





ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626

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June 28, 2016

Analytical Report for Service Request No: K1605750

Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670

RE: San Jacinto River Waste Pit / C643-0903

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory May 28, 2016 For your reference, these analyses have been assigned our service request number **K1605750**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3376. You may also contact me via email at gregory.salata@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Gregory Salata, Ph.D. Senior Project

Manager



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Table of Contents

Acronyms

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General Chemistry

Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LOD Limit of Detection
LOO Limit of Quantitation

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater than or

equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
 DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	_
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

ALS ENVIRONMENTAL

Client: Integral Consulting, Incorporated Service Request No.: K1605750

Project: San Jacinto River Waste Pit/ C643-0903 Date Received: 05/28/16

Sample Matrix: Water

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five water samples were received for analysis at ALS Environmental on 05/28/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Dissolved Organic Carbon by Standard Method 5310 C:

The Relative Percent Difference (RPD) criterion for the replicate analysis in sample SW083 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____



Chain of Custody

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

CHAIN OF CUSTODY - HRGC/HRMS - LABORATORY ANALYSIS REPORT FORM

M 61005750

DATE 5/26/16 PAGE 1 OF 1

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(ALS)	Environmenta

10450 Standliff Road, Suite 210, Houston, TX 77099 | 713.266.1599 | alsusa.hrms@alsglobal.com | www.alsglobal.com

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Cooler Receipt and Preservation Form

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7. Were	ali sample la	bels comp	lete (i.e ana	alysis, prese	ervation	ı, etc.)ˈi	?						NA	Y	N
8. Did al	ll sample lab	els and tag	s agree wit	h custody p	apers?	Indica	ue maj	or disc	repanci	es in th	e table on	page 2.	NA	Y	N
9. Were	appropriate	bottles/cor	ntainers and	d volumes r	eceive	d for th	e tests	indicat	ted?				NA	(Y)	N
10. Were	e the pH-pre	served bott	tles (see SM	'O GEN SOP) recei	ved at t	he app	ropriat	e pH? <i>I</i>	Indicate	in the tab	ole below	NA	(\mathbf{Y})	N
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General Chemistry

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

Analytical Report

Client: Integral Consulting, Incorporated

Project: San Jacinto River Waste Pit/C643-0903

Date Collected: 05/24/16 - 05/26/16

Service Request: K1605750

Sample Matrix: Water **Date Received:** 05/28/16

Analysis Method: SM 2540 C Units: mg/L **Prep Method:** Basis: NA None

Solids, Total Dissolved

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
SW062	K1605750-002	115	10	-	1	05/31/16 18:11	
SW059	K1605750-003	136	10	-	1	06/01/16 18:16	
SW068	K1605750-004	145	10	-	1	06/01/16 18:16	
SW071	K1605750-005	506	10	-	1	06/01/16 18:16	
Method Blank	K1605750-MB1	ND U	5.0	-	1	05/31/16 18:11	
Method Blank	K1605750-MB2	ND U	5.0	-	1	05/31/16 18:11	
Method Blank	K1605750-MB3	ND U	5.0	-	1	06/01/16 18:16	
Method Blank	K1605750-MB4	ND U	5.0	-	1	06/01/16 18:16	

QA/QC Report

Client: Integral Consulting, Incorporated

San Jacinto River Waste Pit/C643-0903

Sample Matrix: Water

Project

SM 2540 C

Prep Method: None

Analysis Method:

Service Request:K1605750

Date Collected:NA

Date Received:NA

Units:mg/L Basis:NA

Replicate Sample Summary Solids, Total Dissolved

				Sample	Duplicate			RPD	Date
Sample Name:	Lab Code:	MRL	MDL	Result	Result	Average	RPD	Limit	Analyzed
Batch QC	K1605604-001DUP	13	-	1020	1020	1020	<1	10	06/01/16
Batch QC	K1605615-001DUP	20	-	2780	2810	2790	1	10	06/01/16
Batch QC	K1605624-002DUP	10	-	217	214	216	1	10	05/31/16
Batch QC	K1605717-003DUP	10	-	175	184	180	5	10	05/31/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:47:10 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated

Service Request:

K1605750

Project:

San Jacinto River Waste Pit/C643-0903

Date Analyzed:

05/31/16

Sample Matrix:

Water

Date Extracted:

NA

Lab Control Sample Summary

Solids, Total Dissolved

Analysis Method:

SM 2540 C

Units:

mg/L

Prep Method:

None

Basis:

NA

Analysis Lot:

498903

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1605750-LCS1	702	714	98	85-115

QA/QC Report

Client: Integral Consulting, Incorporated

San Jacinto River Waste Pit/C643-0903

Project: Date Analyzed:

Sample Matrix: Water **Date Extracted:** NA

> **Lab Control Sample Summary** Solids, Total Dissolved

Analysis Method: SM 2540 C **Units:** mg/L **Prep Method: Basis:** None NA

> 499094 **Analysis Lot:**

K1605750

06/01/16

Service Request:

Spike % Rec Sample Name Lab Code Result **Amount** % Rec Limits Lab Control Sample K1605750-LCS2 99 714 85-115 710

Analytical Report

Client: Integral Consulting, Incorporated

Service Request: K1605750 **Date Collected:** 05/24/16 - 05/26/16 **Project:** San Jacinto River Waste Pit/C643-0903

Sample Matrix: Water **Date Received:** 05/28/16

Analysis Method: SM 2540 D Units: mg/L **Prep Method:** Basis: NA None

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
SW062	K1605750-002	10.0	5.0	-	1	05/31/16 15:14	
SW059	K1605750-003	13.0	5.0	-	1	05/31/16 15:14	
SW068	K1605750-004	14.0	5.0	-	1	05/31/16 15:14	
SW071	K1605750-005	38.5	5.0	-	1	05/31/16 15:14	
Method Blank	K1605750-MB1	ND U	5.0	-	1	05/31/16 15:14	
Method Blank	K1605750-MB2	ND U	5.0	_	1	05/31/16 15:14	

QA/QC Report

Client: Integral Consulting, Incorporated

Service Request:K1605750

Project San Jacinto River Waste Pit/C643-0903 **Date Collected:**NA

Sample Matrix: Water Date Received:NA

SM 2540 D **Analysis Method:**

Units:mg/L

Prep Method: None

Basis:NA

Replicate Sample Summary Solids, Total Suspended (TSS)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1605687-001DUP	5.0	-	14.0	13.0	13.5	7	10	05/31/16
Batch OC	K1605717-003DUP	5.0	-	52.5	53.5	53.0	2	10	05/31/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:47:10 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated **Service Request:**

K1605750

Project:

San Jacinto River Waste Pit/C643-0903

Date Analyzed: Date Extracted: 05/31/16

NA

Sample Matrix:

Prep Method:

Water

Lab Control Sample Summary

Solids, Total Suspended (TSS)

Analysis Method: SM 2540 D

Basis:

mg/L

None

Units:

NA

Analysis Lot: 498899

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1605750-LCS1	138	141	98	85-115

Analytical Report

Client: Integral Consulting, Incorporated

Project: San Jacinto River Waste Pit/C643-0903

Sample Matrix: Water **Date Received:** 05/28/16

Analysis Method: SM 5310 C Units: mg/L **Prep Method:** Basis: NA None

Carbon, Dissolved Organic (DOC)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
SW083	K1605750-001	0.53	0.50	0.07	1	06/11/16 16:03	
SW062	K1605750-002	9.89	0.50	0.07	1	06/11/16 16:03	
SW059	K1605750-003	9.50	0.50	0.07	1	06/11/16 16:03	
SW068	K1605750-004	9.55	0.50	0.07	1	06/11/16 16:03	
SW071	K1605750-005	14.1	1.0	0.2	2	06/11/16 16:03	
Method Blank	K1605750-MB1	ND U	0.50	0.07	1	06/11/16 16:03	

Service Request: K1605750

Date Collected: 05/24/16 - 05/26/16

QA/QC Report

Client: Integral Consulting, Incorporated

Project San Jacinto River Waste Pit/C643-0903

Sample Matrix: Water

SM 5310 C

Prep Method: None

Analysis Method:

Service Request:K1605750

Date Collected:05/24/16 - 05/26/16

Date Received: 05/28/16

Units:mg/L Basis:NA

Replicate Sample Summary Carbon, Dissolved Organic (DOC)

				Sample	Duplicate			RPD	Date
Sample Name:	Lab Code:	MRL	MDL	Result	Result	Average	RPD	Limit	Analyzed
SW083	K1605750-001DUP	0.50	0.07	0.53	0.34 J	0.437	44 *	10	06/11/16
SW062	K1605750-002DUP	0.50	0.07	9.89	9.64	9.77	2	10	06/11/16
SW059	K1605750-003DUP	0.50	0.07	9.50	9.51	9.51	<1	10	06/11/16
SW068	K1605750-004DUP	0.50	0.07	9.55	9.60	9.57	<1	10	06/11/16
SW071	K1605750-005DUP	1.0	0.2	14.1	14.0	14.0	1	10	06/11/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:47:28 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated **Project:**

Service Request:

K1605750

Sample Matrix:

San Jacinto River Waste Pit/C643-0903

Date Collected:

05/24/16

Water

Date Received:

05/28/16

Date Analyzed: Date Extracted: 06/11/16 NA

Matrix Spike Summary

Carbon, Dissolved Organic (DOC)

Units:

mg/L

Sample Name: Lab Code:

SW083

K1605750-001

Basis:

NA

Analysis Method: Prep Method:

SM 5310 C

None

Matrix Spike

K1605750-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	0.53	25.9	25.0	101	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:47:41 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated

Service Request:

K1605750

Project:

San Jacinto River Waste Pit/C643-0903

Date Analyzed:

06/11/16

Sample Matrix:

Water

Date Extracted:

NA

Lab Control Sample Summary Carbon, Dissolved Organic (DOC)

Analysis Method:

SM 5310 C

Units:

mg/L

Prep Method:

None

Basis:

NA

Analysis Lot:

500529

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1605750-LCS1	24.1	24.0	100	83-117

QA/QC Report

Client: Integral Consulting, Incorporated Service Request: K1605750

Project: San Jacinto River Waste Pit/C643-0903

Continuing Calibration Verification (CCV) Summary

Carbon, Dissolved Organic (DOC)

Analysis Method: SM 5310 C Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	500529	KQ1606462-18	06/11/16 16:03	25.0	23.5	94	90-110
CCV2	500529	KQ1606462-19	06/11/16 16:03	25.0	23.6	94	90-110
CCV3	500529	KQ1606462-20	06/11/16 16:03	25.0	23.4	94	90-110

QA/QC Report

Client: Integral Consulting, Incorporated Service Request:K1605750

Project: San Jacinto River Waste Pit/C643-0903

Continuing Calibration Blank (CCB) Summary Carbon, Dissolved Organic (DOC)

Analysis Method: SM 5310 C Units:mg/L

	Analysis		Date					
	Lot	Lab Code	Analyzed	MRL	MDL	Result	Q	
CCB1	500529	KQ1606462-21	06/11/16 16:03	0.50	0.07	ND	U	
CCB2	500529	KQ1606462-22	06/11/16 16:03	0.50	0.07	ND	U	
CCB3	500529	KQ1606462-23	06/11/16 16:03	0.50	0.07	ND	U	

Analytical Report

Client: Integral Consulting, Incorporated

Project: San Jacinto River Waste Pit/C643-0903 Date Collected: 05/24/16 - 05/26/16

Sample Matrix: Water Date Received: 05/28/16

Analysis Method:SM 5310 CUnits: mg/LPrep Method:NoneBasis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
SW062	K1605750-002	10.1	0.50	0.07	1	06/13/16 16:00	
SW059	K1605750-003	10.3	0.50	0.07	1	06/13/16 16:00	
SW068	K1605750-004	10.1	0.50	0.07	1	06/13/16 16:00	
SW071	K1605750-005	7.48	0.50	0.07	1	06/13/16 16:00	
Method Blank	K1605750-MB1	ND U	0.50	0.07	1	06/13/16 16:00	

Service Request: K1605750

QA/QC Report

Client: Integral Consulting, Incorporated

Project San Jacinto River Waste Pit/C643-0903

Sample Matrix: Water

SM 5310 C

Prep Method: None

Analysis Method:

Service Request:K1605750

Date Collected:05/24/16 - 05/26/16

Date Received: 05/28/16

Units:mg/L Basis:NA

Replicate Sample Summary Carbon, Total Organic

				Sample	Duplicate			RPD	Date
Sample Name:	Lab Code:	MRL	MDL	Result	Result	Average	RPD	Limit	Analyzed
SW062	K1605750-002DUP	0.50	0.07	10.1	9.95	10.0	1	10	06/13/16
SW059	K1605750-003DUP	0.50	0.07	10.3	9.72	10.0	6	10	06/13/16
SW068	K1605750-004DUP	0.50	0.07	10.1	9.82	9.95	3	10	06/13/16
SW071	K1605750-005DUP	0.50	0.07	7.48	7.26	7.37	3	10	06/13/16

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:48:00 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated **Project:**

Service Request:

K1605750

San Jacinto River Waste Pit/C643-0903

Date Collected:

05/24/16

Sample Matrix: Water **Date Received:**

05/28/16

Date Analyzed: **Date Extracted:** 06/13/16 NA

Matrix Spike Summary

Carbon, Total Organic

Units:

mg/L

Lab Code:

Sample Name:

SW062

K1605750-002

Basis:

NA

Analysis Method: Prep Method:

SM 5310 C

None

Matrix Spike

K1605750-002MS

Analyte Name Sample Result **Spike Amount** % Rec % Rec Limits Result Carbon, Total Organic 10.1 36.4 105

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 6/16/2016 10:48:05 AM Superset Reference:16-0000378591 rev 00

QA/QC Report

Client: Integral Consulting, Incorporated

Service Request:

K1605750

Project:

San Jacinto River Waste Pit/C643-0903

Date Analyzed:

06/13/16

Sample Matrix:

Water

Date Extracted:

NA

Lab Control Sample Summary Carbon, Total Organic

Analysis Method:

SM 5310 C

Units:

mg/L

Prep Method:

None

Basis:

NA

Analysis Lot:

500687

			Spike		% Rec
Sample Name	Lab Code	Result	Amount	% Rec	Limits
Lab Control Sample	K1605750-LCS1	24.2	24.0	101	83-117

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Integral Consulting, Incorporated Service Request: K1605750

Project: San Jacinto River Waste Pit/C643-0903

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C Units: mg/L

	Analysis		Date		Measured	Percent	Acceptance Limits
	Lot	Lab Code	Analyzed	Value	Value	Recovery	Acceptance Linnis
CCV1	500687	KQ1606456-03	06/13/16 16:00	25.0	24.1	96	90-110
CCV2	500687	KQ1606456-04	06/13/16 16:00	25.0	24.1	96	90-110
CCV3	500687	KQ1606456-05	06/13/16 16:00	25.0	23.7	95	90-110
CCV4	500687	KQ1606456-06	06/13/16 16:00	25.0	23.6	94	90-110

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Integral Consulting, Incorporated Service Request:K1605750

Project: San Jacinto River Waste Pit/C643-0903

Continuing Calibration Blank (CCB) Summary Carbon, Total Organic

Analysis Method: SM 5310 C Units:mg/L

	Analysis		Date					
	Lot	Lab Code	Analyzed	MRL	MDL	Result	Q	
CCB1	500687	KQ1606456-07	06/13/16 16:00	0.50	0.07	ND	U	
CCB2	500687	KQ1606456-08	06/13/16 16:00	0.50	0.07	ND	U	
CCB3	500687	KQ1606456-09	06/13/16 16:00	0.50	0.07	ND	U	
CCB4	500687	KQ1606456-10	06/13/16 16:00	0.50	0.07	ND	U	



Raw Data

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com



General Chemistry

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

Work R	equest # (KICO) 5586, 5624, 5628, 5630, 5634, 5693, 5717, 5750
Tier:	<u> </u>
Date An	nalyzed: 5/3///b
Analyst	Run# 498903
Analysis	S ALL CITAL
Anarysa	S. CAT 2010 Cf 12
	DATA QUALITY REPORT INORGANICS
Explain	any "no" responses to questions below, and any corrective actions in the comments section below.
1.	Is the method name and number correct and appropriate? Oscino/NA
2.	Holding times met for all analyses and for all samples?
3.	Are calculations correct? yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)
5,	All quality control criteria met?
6.	Is the calibration curve correlation coefficient ≥ 0.995? yes/ng(NA)
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?
9.	Are results for methods blanks all ND? (yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)
11.	Are all exceptions explained? yes/notNA
12.	Have all applicable service requests been reviewed? (yes/no/NA)
13.	Are all samples labeled correctly? yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)
15.	Are detection limits and units reported correctly?
16.	Is the unused space on the benchsheet crossed out? (yes no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#) yes no NA
COMM	IENTS:
K	160 5693 Rush K160 5586, 5624, 5628, 5630, 5639
Final A	pproved by:

Instrument Name: K-Balance-31 Analyst: MTAYLOR Analysis Lot: 498903 Method/Testcode: SM 2540 C/TDS

-	Lab Code \$1605586-002	Target Analytes Solids, Total Dissolved	QC N/A	Parent Sample	<u>Matrix</u> Water	Raw Result 403.00 mg/L	Sample Amt.	Final Result D		POL % Rec	% RSD	<u>Date Analyzed</u> 5/31/16 18:11	QC?	
	K1605624-001	Solids, Total Dissolved			Ground Water	193.00 mg/L	100 mL	193 mg/L 1		10		5/31/16 18:11	N	H
]	1605624-002	Solids, Total Dissolved	N/A		Ground Water	217.00 mg/L	100 mL	217 mg/L	I	10		5/31/16 18:11	Y	III
]	1605624-003	Solids, Total Dissolved	N/A		Ground Water	0.50 mg/L	200 mL	5.0 mg/L U 1		5.0		5/31/16 18:11	N	. III
)	1605624-004	Solids, Total Dissolved	N/A		Ground Water	207.00 mg/L	100 mL	207 mg/L	l	10		5/31/16 18:11	N	Ш
1	1605624-005	Solids, Total Dissolved	N/A		Ground Water	561.00 mg/L	100 mL	561 mg/L	l	10		5/31/16 18:11	N	I
Ì	1605624-006	Solids, Total Dissolved	N/A		Ground Water	184.00 mg/L	100 mL	184 mg/L 1		14 ()		5/31/16 18:11	N	III
]	1605628-002	Solids, Total Dissolved	N/A		Water	173.00 mg/L	100 mL	173 mg/L 1		10		5/31/16 18:11	N	I
]	1605630-001	Solids, Total Dissolved	N/A		Water	181.00 mg/L	100 mL	181 mg/L = 1	l	10		5/31/16 18:11	N	I
]	1605630-002	Solids, Total Dissolved	N/A		Water	151.00 mg/L	100 mL	151 mg/L = 1		10		5/31/16 18:11	N	Ī
]	1605634-001	Solids, Total Dissolved	N/A		Water	2881.30 mg/L	75 mL	2880 mg/L 1	I	13		5/31/16 18:11	N	IV
]	1605634-002	Solids, Total Dissolved	N/A		Water	165.00 mg/L	100 mL	165 mg/L 1	t	10		5/31/16 18:11	N	IV
ا ن	1605634-003	Solids, Total Dissolved	N/A		Water	2556.00 mg/L	75 mL	2560 mg/L 1		13		5/31/16 18:11	N	IV
ַ מַ	1605693-001	Solids, Total Dissolved	N/A		Water	7.00 mg/L	200 mL	7.0 mg/L 1	l	5.0		5/31/16 18:11	N	II
ا يرا	1605717-001	Solids, Total Dissolved	N/A		Water	297.00 mg/L	100 mL	297 mg/L 1		10		5/31/16 18:11	N	V
<u>.</u>	1605717-002	Solids, Total Dissolved	N/A		Water	102.00 mg/L	100 mL	102 mg/L = 1		10		5/31/16 18:11	N	V
[تـ	1605717-003	Solids, Total Dissolved			Water	175.00 mg/L	100 mL	175 mg/L = 1		10		5/31/16 18:11	Y	V
5]	1605717-004	Solids, Total Dissolved	N/A		Water	117.00 mg/L	100 mL	117 mg/L = 1		10		5/31/16 18:11	N	V
]	1605717-005	Solids, Total Dissolved	N/A		Water	125.00 mg/L	100 mL	125 mg/L = 1		10		5/31/16 18:11	N	V
}	1605750-002	Solids, Total Dissolved	N/A		Water	115.00 mg/L	100 mL	115 mg/L 1		10		5/31/16 18:11	N	IV
I	Q1606351-01	Solids, Total Dissolved	MB		Water	0.00 mg/L	200 mL	5.0 mg/L U 1	l.	5.0		5/31/16 18:11	N	H
Ī	Q1606351-02	Solids, Total Dissolved	MB		Water	-1.00 mg/L	200 mL	5.0 mg/L U 1		5.0		5/31/16 18:11	N	II
]	Q1606351-03	Solids, Total Dissolved	LCS		Water	702.00 mg/L.	50 mL	702 mg/L 1		20 98		5/31/16 18:11	N	II
l	Q1606351-04	Solids, Total Dissolved	DUP	K1605624-002	Ground Water	214.00 mg/L	100 mL	214 mg/L 1		10	1	5/31/16 18:11	N	Ш
]	Q1606351-05	Solids, Total Dissolved	DUP	K1605717-003	Water	184.00 mg/L	100 mL	184 mg/L 1		10	5	5/31/16 18:11	N	V

06/13/16 Freeh

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

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Wt, Cru. +

Dry sample

(2) (g)

Wt, Cru. +

Dry sample

(3)(g)

498903

TDS (mg/L)

TDS (mg/L)

reported

Work Order #.:

Sample #

Analysis:

K1605586,5624,5628,5630,5634,5693,5717,5750

Sample

Volume

(ml)

Conducti

vity

Crucible #

Total Dissolved Solids

Wt, Cru. +

Dry sample

(1)(g)

Method: EPA SM 2540 C

Wt. Dry

Sample (g)

Wt. Crucible

(g)

	JL	<u> </u>	ji .	IL	l1	<u> </u>				/ L	<u> </u>
МВ	C16		200	85.9167	85.9167	- Charles Constitution	1	85.9167	0.0000	0	<5
MB	28Y		200	76.8470	76.8470			76.8472	-0.0002	- 1	<5
LCS	A53		50	100.5948	100.5947		CONT.	100.5597	0.0351	702	702.00
K1605586-002	A12	710	100	85.9527	85.9523		William No.	85.9124	0.0403	403	403.00
K1605624-001	A46	409	100	86.5897	86.5895			86.5704	0.0193	193	193.00
K1605624-002	A15	461	100	95.0260	95.0257		N'TTRESSEE	95.0043	0.0217	217	217.00
K1605624-003	E3	2	200	78.6840	778.6840		- Donatori	78.6839	0.0001	I	<5
K1605624-004	A17	465	100	84.2828	84.2825		angarun vitalian	84.2621	0.0207	207	207.00
K1605624-005	A22	861	100	81.2585	81.2582		d-Statistical	81.2024	0.0561	561	561.00
K1605624-006	24	390	100	70.3416	70.3415			70.3232	0.0184	184	184.00
K1605628-002	A8	274	100	99.2188	99.2188		-	99.2015	0.0173	173	173.00
K1605630-001	LL	310	100	81.0143	81.0142		The Property of the Party of th	80.9962	0.0181	181	181.00
K1605630-002	[25]	218	100	77.9649	77.9648			77.9498	0.0151	151	151.00
K1605634-001	NC2	2922	75	86.2573	86.2571			86.0412	0.2161	2881	2881.30
K1605634-002	50	248	100	68.6196	68.6192			68.6031	0.0165	165	165.00
-K1605634-003	T4	2632	75	67.9027	67.9024	- Circurate		67.7110	0.1917	2556	2556,00
K1605693-001	42Y	21	200	71.9182	71.9183	hindr/messi.		71.9168	0.0014	7	7.00
K1605717-001	J16	457	100	75.0673	75.0671	Canada Arta		75.0376	0.0297	297	297.00
K1605717-002	A50	145	100	103.8061	103.8057	O COLOR		103,7959	0.0102	102	102,00
K1605717-003	[34]	331	100	74.6820	74.6817			74.6645	0.0175	175	175.00
K1605717-004	Dianne	234	100	85.9208	85,9206			85.9091	0.0117	117	117.00
K1605717-005	18Y	234	100	80.6755	80.6753	The same		80.6630	0.0125	125	125.00
K1605750-002	ВН	192	100	73.4633	73.4630			73.4518	0.0115	115	115.00
K1605624-002D	XIV	461	100	74.9552	74.9550			74.9338	0.0214	214	214.00
K1605717-003D	T9	331	100	73.9788	73.9784	L	NO. 10.	73.9604	0.0184	184	184.00
Calculation: Dissolv									iter Lot #1020		
ERA #:4033	Lot# 02111			2-Gen-011-16		T.V. = 7		K-Bala	nce 31		C - OVEN 06
Wt (1) Start	ļ		Wt (2) S		6/13/2016	Wt (3)	Star				OVEN 02
Stop	8:36	6/13/2016		11:08	6/13/2016	<u> </u>	Sto		Thermometer	ID# Oven d	igital
Wt (1) Start	180		Wt (2) S	180		Wt (3)	Star				
Гетр Stop	180		Temp S	180		Temp	Stop				
Wt (4) Start			Wt (5)	Start		Wt (6)	Star	t		2	
Stop			11	Stop			Sto				
				Start		IAH (C)	Star		*		
Wt (4) Start			╣ `′	****		Wt (6)]	45
Гетр Stop Analyzed By:	MT		Temp S	ιυρ		Temp		Date Analyzec	-	date 5/31/2016	time 1 <u>8</u> :1
Reviewed By:		w	IW					Date Reviewed		3/31/2016 3/12/16	10.1
			7								

Work Order #.:							Method: EPA SM 2540 C						
Analysis:			Total I	Dissolved Solid	ls		-						
			CCV	Verification	SN: 67095				:				
I st weigh	100.0000 g	≤(+/- 0.1%)	2 nd weigh	10.0000 g	≤(+/- 0.1%)	3rd weigh	100.0000 g	≤(+/- 0.1%)	^{4rd} weigh	10.0	000 g		
CCVI	99.9996	100.00%	<u> </u>	10.0000	100.00%	CCV5	100.0001	100.00%	CCV6		0000		
Date/time	6/9/2016		Date/time	6/9/2016		Date/time	6/13/2016		Date/timε	6/13	/2016		
CCV3	99.9996	100.00%	CCV4	10.0000	100.00%	CCV7	100.0000	100.00%	CCV8	COMMISSION DESCRIPTION OF THE PERSON NAMED IN COLUMN	0002		
Date/time	6/9/2016		Date/time	6/9/2016		Date/time	6/13/2016	***************************************	Date/timε	6/13	/2016		
				andre and a standard Continue to the contract of					<u></u>				
1 st weigh	100.0000 g	≤(÷/- 0,1%)	2 nd weigh	10.0000 g	≤(+/- ().1%)	^{3rd} weigh	100,0000 g	≤(+/- ().1%)	^{4rd} weigh	10.0	000 g		
CCV	99.9998	100.00%	CCV	10.0002	100.00%	CCV		0.00%	CCV				
Date/time	6/13/2016	Тукологичноствомического соста	Date/time	6/13/2016		Date/time	da a company de la company	117 mm, 1 40 m, 310 m, 11 m, 10 m	Date/time	**************************************			
CCV	99,9999	100.00%	CCV	10000.01	100.00%	CCV		0.00%	CCV				
Date/time	6/13/2016		Date/time	6/13/2016		Date/time	**************************************	7.0	Date/time	<u>.</u>			
 			*************************************		And the state of t		THE STATE OF THE S		· · · · · · · · · · · · · · · · · · ·	A			
1 st weigh	100.0000 g	≤(+/- 0.1%)	2 nd weigh	10.0000 g	≤(+/- 0.1%)	^{3rd} weigh	100.0000 g	≤(+/- (),1%)	^{4rd} weigh	10,0	000 g		
CCV		0.00%	CCV	· ·	0.00%	CCV		0.00%	CCV				
Date/time			Date/time	·		Date/time			Date/time	<u> </u>			
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV				
Date/time	<u> </u>	Ayota oyunca ay baday lama da aran	Date/time	3		Date/time			Date/time		**************************************		
······································													
l st weigh	100.0000 g	≤(+/- 0.1%)	2 nd weigh	10.0000 g	≤(+/- 0.1%)	^{3rd} weigh	100.0000 g	≤(+/- 0,1%)	^{4rd} weigh	10.0	000 g		
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV				
Date/time			Date/time	<u> </u>		Date/time			Date/time	10.000 (10.000			
CCV		0.00%	CCV	**************************************	0.00%	CCV		0.00%	CCV		HEROCONIC CONTRACTOR		
Date/time			Date/time		I	Date/time			Date/time	<u>.</u>			
Analyzed By: Reviewed By:	MT	Thu	W/I	4/\			Date Analyzed Date Reviewed		5/31/2016 6		18:11		
					Page d	of			5-31-16 T	<u>DS3</u>			

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Tier:	Request # (K160) S604, 5607, 5608, 5610, 5615, 5624	T
Date A	Analyzed: 6/1/16	· ·
Analy	st: CES	Run# 499094
Analy	s acris Class	•
	DATA QUALITY REPORT INORGANICS	
Expla	in any "no" responses to questions below, and any corrective actions in	the comments section below.
1.	Is the method name and number correct and appropriate?	(yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	(yez/no/NA
4.	Is the reporting basis correct? (Dry Weight)	(yeg/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no(NA)
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	ves no/NA
9,	Are results for methods blanks all ND?	(yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(ye)/no/NA
11.	Are all exceptions explained?	yes/no(NA)
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	(yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	((yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yesmo/NA
COM	IMENTS:	entral manufacture de la constitución de la constit
KI	e05607,5608, & 5615 Rush	
Final	Approved by:Date:	6/6/16 DOREFORT

Instrument Name: K-Balance-31 Analyst: MTAYLOR Analysis Lot: 499094 Method/Testcode: SM 2540 C/TDS

Lab Code	Target Analytes	<u>QC</u>	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Dil	MDL	PQL S	% Rec	% RSD	Date Analyzed	QC?	Tier
K1605604-001	Solids, Total Dissolved	N/A		Water	1018.70 mg/L	75 mL	1020 mg/L 1		13			6/1/16 18:16	N	11
K1605604-002	Solids, Total Dissolved	N/A		Water	1008.00 mg/L	75 mL	1010 mg/L 1		13			6/1/16 18:16	N	Ш
K1605604-003	Solids, Total Dissolved	N/A		Water	29510.00 mg/L	10 mL	29500 mg/L 1		100			6/1/16 18:16	N	II
K1605604-004	Solids, Total Dissolved	N/A		Water	7.50 mg/L	200 mL	7.5 mg/L I	·	5.0	**********		6/1/16 18:16	N	11
K1605604-005	Solids, Total Dissolved	N/A		Water	22600.00 mg/L	10 mL	22600 mg/L 1		100			6/1/16 18:16	N	П
K1605604-006	Solids, Total Dissolved	N/A		Water	18780.00 mg/L	10 mL	18800 mg/L 1		100			6/1/16 18:16	N	II
K1605604-007	Solids, Total Dissolved	N/A		Water	1228.00 mg/L	75 mL	1230 mg/L 1		13			6/1/16 18:16	N	II
K1605607-001	Solids, Total Dissolved	N/A		Water	11.50 mg/L	200 mL	11.5 mg/L 1		5.0			6/1/16 18:16	N	П
K1605608-001	Solids, Total Dissolved	N/A		Water	172.00 mg/L	100 mL	172 mg/L 1		10			6/1/16 18:16	N	II
K1605610-001	Solids, Total Dissolved	N/A		Surface Water	302.00 mg/L	100 mL	302 mg/L 1		10			6/1/16 18:16	N	V
K1605610-002	Solids, Total Dissolved	N/A		Surface Water	306.00 mg/L	100 mL	306 mg/L 1		10			6/1/16 18:16	N	V
K1605610-003	Solids, Total Dissolved	N/A		Surface Water	246.00 mg/L	100 mL	246 mg/L 1		10			6/1/16 18:16	N	V
K1605610-004	Solids, Total Dissolved	N/A		Surface Water	449.00 mg/L	100 mL	449 mg/L 1		10			6/1/16 18:16	N	V
K1605610-005	Solids, Total Dissolved	N/A		Surface Water	1.00 mg/L	200 mL	5.0 mg/L U 1		5.0			6/1/16 18:16	N	V
K1605615-001	Solids, Total Dissolved	N/A		Water	2780.00 mg/L	50 mL	2780 mg/L 1		20			6/1/16 18:16	N	П
K1605624-007	Solids, Total Dissolved	N/A		Ground Water	738.70 mg/L	75 mL	739 mg/L 1		13			6/1/16 18:16	N	III
K1605624-008	Solids, Total Dissolved	N/A		Ground Water	663.00 mg/Ł	100 mL	663 mg/L I		10			6/1/16 18:16	N	Ш
K1605750-003	Solids, Total Dissolved	N/A		Water	136.00 mg/L	100 mL	136 mg/L = 1		10			6/1/16 18:16	N	IV
K1605750-004	Solids, Total Dissolved	N/A	***************************************	Water	145.00 mg/L	100 mL	145 mg/L 1		10			6/1/16 18:16	N	ΙV
K1605750-005	Solids, Total Dissolved	N/A		Water	506.00 mg/L	100 mL	506 mg/L 1		10			6/1/16 18:16	N	ΙV
KQ1605939-01	Solids, Total Dissolved	MB		Water	0.00 mg/L	200 mL	5.0 mg/L U I		5.0			6/1/16 18:16	N	11
KQ1605939-02	Solids, Total Dissolved	MB		Water	0.00 mg/L	200 mL	5.0 mg/L U 1		5.0			6/1/16 18:16	N	II
KQ1605939-03	Solids, Total Dissolved	LCS		Water	710.00 mg/L	50 mL	710 mg/L 1		20	99		6/1/16 18:16	N	П
KQ1605939-04	Solids, Total Dissolved	DUP	K1605604-001	Water	1016.00 mg/L	75 mL	1020 mg/L I		13		<1	6/1/16 18:16	N	П
KQ1605939-05	Solids, Total Dissolved	DUP	K1605615-001	Water	2808.00 mg/L	50 mL	2810 mg/L 1		20		1	6/1/16 18:16	N	11

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[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Work Order #.:

K1605604,5607,5608,5610,5615,5624,5750

Analysis:

Total Dissolved Solids

Method: EPA SM 2540 C

Sample #	Crucible #	Conducti vity	Sample Volume (ml)	Wt, Cru. + Dry sample (1) (g)	Wt, Cru. + Dry sample (2) (g)	Wt, C Dry sa (3)	mple	Wt. Crucible (g)	Wt. Dry Sample (g)	TDS (mg/L)	TDS (mg/L) reported
МВ	42Y		200	71.9228	71.9228	en Commonweal		71.9228	0.0000	0	<5
MB	[40]		200	74.3116	74.3116		1	74.3116	0.0000	0	<5
LCS	A15		50	95.0519	95.0519			95.0164	0.0355	710	710.00
K1605604-001	A67	1760	75	101.2619	101.2618		1	101.1855	0.0764	1019	1018.70
K1605604-002	A30	1760	75	103.2012	103.2010			103.1256	0.0756	1008	1008.00
K1605604-003	A41	31000	10	96.8289	96.8286			96.5338	0.2951	29510	29510.00
K1605604-004	24Y	12	200	72.6767	72.6767		Merimon	72,6752	0.0015	8	7.50
K1605604-005	A48	23000	10	93.7491	93.7488			93.5231	0.2260	22600	22600.00
K1605604-006	A1	21000	10	92.5059	92.5055		ni tatribusson	92.3181	0.1878	18780	18780.00
K1605604-007	A28	2100	75	104.9349	104,9345		and the second	104.8428	0.0921	1228	1228.00
K1605607-001	[24]	24	200	74.1723	74.1721			74.1700	0.0023	12	11.50
K1605608-001	A39	308	100	91.5659	91.5655			91.5487	0.0172	172	172.00
K1605610-001	[26]	470	100	78.7743	78.7741			78.7441	0.0302	302	302.00
K1605610-002	A10	466	100	81.5261	81.5258			81.4955	0.0306	306	306.00
K1605610-003	A54	353	100	88.9850	88.9850	ana di di		88.9604	0.0246	246	246.00
K1605610-004	S7	624	100	74.0924	74.0920	412		74.0475	0.0449	449	449.00
K1605610-005	A18	2	200	75.6483	75.6482			75.6481	0.0002	I	<5
K1605615-001	HY	5300	50	84.0780	84.0778	ceptuman		83.9390	0.1390	2780	2780.00
K1605624-007	A62	1051	75	102.6883	102.6881			102.6329	0.0554	739	738.70
K1605624-008	[23]	953	100	74.1545	74.1542			74.0882	0.0663	663	663.00
K1605750-003	ΧίV	191	100	74.9325	74.9323			74.9189	0.0136	136	136.00
K1605750-004	A56	226	100	101.2908	101.2905			101.2763	0.0145	145	145.00
K1605750-005	A58	967	100	96.3796	96,3793			96.3290	0.0506	506	506.00
K1605604-001D	A71	1760	75	88.8980	88.8979	7		88.8218	0.0762	1016	1016.00
K1605615-001D	T8	5300	50	69.4752	69.4750	-	-	69.3348	0.1404	2808	2808.00
Calculation: Dissolv	ed Solids (mg	g/L) = Wt	. Dry Samp	le (g) x 1000	x 1000 / V olun	ne (ml)		Fi	lter Lot #1020	36	
ERA #:4033	Lot# 02111	5	ID# TDS-1	2-Gen-011-16		T.V. = 7	714	K-Bala	nce 31	105 oven: K	OVEN 06
Wt (1) Start			Wt (2) S		6/6/2016	Wt (3)	Star				- OVEN 02
Stop	8:23	6/6/2016	£	10:44	6/6/2016		Sto	······	Thermometer	ID# Oven d	igital
Wt (1) Start	180		Wt (2) S			Wt (3)	Star				
Temp Stop	180		Temp S	180		Temp	Stop				
Wt (4) Start			Wt (5) S	itart		Wt (6)	Star	t			
Stop			,	Stop			Sto	р		····	·
Wt (4) Start			Wt (5) S	start		Wt (6)	Star	t į			
Temp Stop			Temp S	top		Temp	Stop			date	time
Analyzed By:	CES	<u> </u>	Vanamen kilos kilojaka kilosomen est	1				Date Analyzed		6/1/2016	18:16
Reviewed By:			/	and the same of th				Date Reviewed	i: <i>U/6</i>	116	

Analysis:							Method: EPA SM 2540 C						
			Total D	issolved Solid	s		-						
									_				
Managaran and a second sec				Verification	SN: 67095								
l st weigh	100.0000 g	ļ	2 nd weigh	10.0000 g	≤(+/- 0.1%)	3rd weigh	100.0000 g	≤(+/ - 0.1%)	^{4rd} weigh	10.0000 g			
CCVI	100.0000	100.00%		9,9999	100.00%	CCV5	99.9997	100.00%	CCV6	9.9999			
Date/time	6/3/2016	T	Date/time	6/3/2016	····	Date/time	6/6/2016		Date/time	6/6/2016			
CCV3	99.9999	100.00%	 	10.0000	100.00%	CCV7	99.9997	100.00%	CCV8	10.0000			
Date/time	6/3/2016		Date/time	6/3/2016		Date/time	6/6/2016		Date/timε	6/6/2016			
l st weigh	100,000	≤(+/~ 0.1%)	2 nd weigh	10.0000	≤(÷/- 0.1%)	^{3rd} weigh	100,000	≤(+/- 0.1%)	^{4rd} weigh	10.0000			
CCV	100.0000 g 99.9997	100.00%	4	10.0000 g 10.0000	100.00%	CCV	100,0000 g	0.00%	CCV	10.0000 g			
Date/time	6/6/2016	100.0078	Date/time	6/6/2016	100.0076	Date/time		0.00%	Date/time	***************************************			
CCV	99,9998	100.00%	CCV	10.0001	100.00%	CCV		0.00%	CCV				
Date/time	6/6/2016	100,0076	Date/time	6/6/2016	1.00,0076	Date/time		0.0076	Date/time				
Duco anno	0/0/2010		Date/time	0/0/2010		isace, anne			Date, time				
l st weigh	100.0000 g	≤(+/- 0.1%)	2 nd weigh	10.0000 g	≤(+/- 0.1%)	^{3rd} weigh	100.0000 g	≤(+/- 0,1%)	^{4rd} weigh	10.0000 g			
CCV	1	0.00%	CCV	, , , , , , , , , , , , , , , , , , ,	0.00%	CCV		0.00%	CCV				
Date/time			Date/time			Date/time			Date/time				
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV				
Date/time	<u> </u>		Date/time			Date/time			Date/time				
9-14-14-14-14-14-14-14-14-14-14-14-14-14-													
1 st weigh	100.0000 g	≤(+/- 0.1%)	2 nd weigh	10.0000 g	≤(+/- 0.1%)	3rd weigh	100.0000 g	≤(+/- 0.1%)	^{4rd} weigh	10.0000 g			
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV				
Date/time			Date/time			Date/time			Date/time				
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV				
Date/time			Date/time			Date/time			Date/time				
									<u> </u>	ime			
							IData Analamad		C 11 /2 0 1 C	10.16			
Analyzed By: Reviewed By:	MT		#_	A District			Date Analyzed Date Reviewed		6/1/2016	18:16			

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of

Page

Date Ana Analyst: Analysis:	lyzed: 5/3(//&	Run #_ ԿԳ೪%%
·	TSS DATA QUALITY REPORT	Run # <u> ሣዓሄሄଙ</u>
Analysis:	DATA QUALITY REPORT	
	DATA QUALITY REPORT	
	INORGANICS	
Explain a	ny "no" responses to questions below, and any corrective actions in the	comments section below.
l. I	Is the method name and number correct and appropriate?	Nes no/NA
2. 1	Holding times met for all analyses and for all samples?	(yes/no/NA
. 1	Are calculations correct?	€8/no/NA
i. J	Is the reporting basis correct? (Dry Weight)	€ş/no/NA
	All quality control criteria met?	Ø€s/no
. 1	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA3
	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	(yes/no/NA
	Are ICVs, CCVs, and CCBs all within acceptance limits?	(yes/no/NA
	Are results for methods blanks all ND?	yes/no/NA
	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	(ye)/no/NA
1.	Are all exceptions explained?	yes/no/NA)
2. I	Have all applicable service requests been reviewed?	Ves/no/NA
3. <i>i</i>	Are all samples labeled correctly?	√e }/no/NA
	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
5. <i>I</i>	Are detection limits and units reported correctly?	√e ÿ/no/NA
6. l	s the unused space on the benchsheet crossed out?	€ I/no/NA
7. \	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA
СОММЕ	INTC.	

Instrument Name: K-Balance-31 Analyst: MTAYLOR Analysis Lot: 498899 Method/Testcode: SM 2540 D/TSS

<u>Lab Code</u> K1604477-038	Target Analytes Solids, Total Suspended	QC N/A	Parent Sample	<u>Matrix</u> Water	Raw Result 23.00 mg/L	Sample Amt. 100 mL	Final Result 23 mg/L		MDL PQL 2	Rec % RSD	<u>Date Analyzed</u> 5/31/16 15:14	QC?	<u>Tier</u> I	
K1604477-039	(TSS) Solids, Total Suspended	N/A		Water	22.00 mg/L	100 mL	22 mg/L	I	10		5/31/16 15:14	N	I	
K1605532-003	(TSS) Solids, Total Suspended (TSS)	N/A		Water	5760.00 mg/L	5 mL	5760 mg/L	I	200		5/31/16 15:14	N	I	
K1605687-001	Solids, Total Suspended (TSS)	N/A		Water	14.00 mg/L	200 mL	14.0 mg/L	1	5.0		5/31/16 15:14	N	II	
K1605687-002	Solids, Total Suspended	N/A		Water	13.00 mg/L	200 mL	13.0 mg/L	1	5.0		5/31/16 15:14	N	II	
K1605694-002	(TSS) Solids, Total Suspended (TSS)	N/A		Water	89.50 mg/L	200 mL	89.5 mg/L	1	5.0		5/31/16 15:14	N	IV	
K1605694-004	Solids, Total Suspended (TSS)	N/A		Water	157.00 mg/L	100 mL	157 mg/L	l	10		5/31/16 15:14	N	ΙV	_
K1605694-006	Solids, Total Suspended	N/A		Water	68.50 mg/L	200 mL	68.5 mg/L	1	5.0		5/31/16 15:14	N	ΙV	
K1605695-001	(TSS) Solids, Total Suspended (TSS)	N/A		Water	60.50 mg/L	200 mL	60.5 mg/L	1	5.0		5/31/16 15:14	N	ΙV	
K1605695-002	Solids, Total Suspended (TSS)	N/A		Water	63.50 mg/L	200 mL	63.5 mg/L	1	5.0		5/31/16 15:14	N	IV	0
K1605695-003	Solids, Total Suspended (TSS)	N/A		Water	0.00 mg/L	200 mL	5.0 mg/L U	1	5.0		5/31/16 15:14	N	ΙV	of 140
K1605717-001	Solids, Total Suspended (TSS)	N/A		Water	18.50 mg/L	200 mL	18.5 mg/L	henned	5.0		5/31/16 15:14	N	V	42
K1605717-002	Solids, Total Suspended (TSS)	N/A		Water	3.50 mg/L	200 mL	5.0 mg/L U	1	5.0		5/31/16 15:14	N	V	Page
K1605717-003	Solids, Total Suspended (TSS)	N/A		Water	52.50 mg/L	200 mL	52.5 mg/L	1	5.0		5/31/16 15:14	Y	V	_
K1605717-004	Solids, Total Suspended (TSS)	N/A		Water	21.00 mg/L	200 mL	21.0 mg/L	1	5.0		5/31/16 15:14	N	V	
K1605717-005	Solids, Total Suspended (TSS)	N/A		Water	18.00 mg/L	200 mL	18.0 mg/L	1	5.0		5/31/16 15:14	N	V	
K1605750-002	Solids, Total Suspended (TSS)	N/A		Water	10.00 mg/L	200 mL	10.0 mg/L	1	5.0		5/31/16 15:14	N	V	
K1605750-003	Solids, Total Suspended (TSS)	N/A		Water	13.00 mg/L	200 mL	13.0 mg/L	1	5.0		5/31/16 15:14	N	ν	
K1605750-004	Solids, Total Suspended (TSS)	N/A	· · · · · · · · · · · · · · · · · · ·	Water	14.00 mg/L	200 mL	14.0 mg/L	1	5.0		5/31/16 15:14	N	V	
K1605750-005	Solids, Total Suspended (TSS)	N/A		Water	38.50 mg/L	200 mL	38.5 mg/L	1	5.0		5/31/16 15:14	N	V	
KQ1605708-01	Solids, Total Suspended (TSS)	MB		Water	0.00 mg/L	200 mL	5.0 mg/L U	1	5.0		5/31/16 15:14	N	Į	
KQ1605708-02	Solids, Total Suspended (TSS)	МВ		Water	0.00 mg/L	200 mL	5.0 mg/L U	1	5.0		5/31/16 15:14	N	jamen (
KQ1605708-03	Solids, Total Suspended (TSS)	LCS		Water	138.00 mg/L	50 mL	138 mg/L	1	20	98	5/31/16 15:14	N	Į	

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analyst: MTAYLOR Instrument Name: K-Balance-31

Analysis Lot:

498899

Method/Testcode: SM 2540 D/TSS

<u>Lab Code</u> KQ1605708-04	Target Analytes Solids, Total Suspended (TSS)	<u>QC</u> DUP	<u>Parent Sample</u> K1605687-001	<u>Matrix</u> Water	Raw Result 13.00 mg/L	Sample Amt. 200 mL	Final Result Dil 13.0 mg/L 1	MDL	PQL % Rec 5.0	% RSD 7	Date Analyzed 5/31/16 15:14	QC?	Tier II
KQ1605708-05	Solids, Total Suspended	DUP	K1605717-003	Water	53.50 mg/L	200 mL	53.5 mg/L 1		5.0	2	5/31/16 15:14	N	V

448899

Analysis:					pended Solid 7,5694,5695			_ Method:	EPA SM 2540) D	
Sample #	Row#	Pan Number	Comments	Sample Volume (ml)	Wt. Filter + Dry sample (1) (g)	Wt. Filter + Dry sample (2) (g)	Wt. Filter Dry sampl (3) (g)	- If Wf. Filter	Wt. Dry Sample (g)	TSS (mg/L)	TSS (mg/L) reported
MB	1	t109151		200	0.0978	0.0978		0.0978	0.0000	0.00	(1000/RC[-7]
MB	2	t109152		200	0.1001	0.0999		0.1001	0.0000	0.00	(1000/RC[-7]
LCS	3	t109153		50	0.1070	0.1068		0.1001	0.0069	138.00	138.0
K1604477-038	4	t109154		100	0.1019	0.1018		0.0996	0.0023	23.00	23.0
K1604477-039	5	t109155		100	0.1011	0.1010	V	0.0989	0.0022	22.00	22.0
K1605532-003	6	t109156		5	0,1280	0.1280		0.0992	0.0288	5760.00	5760.0
K1605687-001	7	t109157		200	0.1025	0.1025		0.0997	0.0028	14.00	14.0
K1605687-002	8	t109158		200	0.1019	0.1018		0.0993	0.0026	13.00	13.0
K1605694-002	9	t109159		200	0.1152	0.1151		0.0973	0.0179	89.50	89.5
K1605694-004	01	t109160		100	0.1143	0.1141		0.0986	0.0157	157.00	157.0
K1605694-006	11	t109161		200	0.1120	0.1118		0.0983	0.0137	68.50	68.5
K1605695-001	12	t109162		200	0.1108	0.1105		0.0987	0.0121	60,50	60,5
K1605695-002	13	t109163		200	0.1105	0.1103		0.0978	0.0127	63,50	63,5
K1605695-003	14	t109164		200	0.0985	0.0985		0.0985	0.0000	0.00	(1000/RC[-7]
K1605717-001	15	t109165		200	0.1022	0.1022		0.0985	0.0037	18.50	18.5
K1605717-002	16	1109166		200	0.0991	0.0991		0.0984	0.0007	3,50	(1000/RC[-7]
K1605717-003	17	t109167		200	0.1073	0.1073		0.0968	0.0105	52,50	52.5
K1605717-004	18	t109168		200	0.1039	0.1039		0.0997	0.0042	21.00	21.0
K1605717-005	19	t109169		200	0.0991	0.0991		0.0955	0.0036	18.00	18.0
K1605750-002	20	t109170		200	0.1002	0.1002		0.0982	0.0020	10.00	10.0
K1605750-003	21	1109171		200	0.0996	0.0996		0.0970	0.0026	13.00	13.0
K1605750-004	22	t109172		200	0.0993	0.0994		0.0965	0.0028	14,00	14,0
K1605750-005	23	t109173		200	0.1061	0.1061		0.0984	0.0077	38.50	38.5
K1605687-001D	24	t10917 4		200	0.1002	0.1002		0.0976	0.0026	13,00	13.0
K1605717-003D	25	t109175		200	0.1086	0.1086		0.0979	0.0107	53,50	53,5
Calculation: Susp	ended					1000 / Volui	me (ml)		K-Balance 31		OVEN 06
ERA #:4033				ID# TDS/		011-16-M	T.V. =	141	·	102036	
Wt (1) Start				Wt (2)			1	start	Thermometer:	Oven digital	
Stop	•	9:11	6/1/2016		10:59	6/1/2016	<u> </u>	Stop			
Wt (1) Start Temp Stop		105 105	ļ	Wt (2) Temp	1		Wt (3) S	tart ton			
Lemb 200b	(Salahan ya wasa)	105		l remp	J 100		Lieuth 2	ιορ			<u></u>
Wt (4) Start	***************************************]	Wt (5)	Start		Wt (6) S	Tart			
Stop					Stop			Stop			
Wt (4) Start				Wt (5)	·			tart			
Temp Stop				Temp			Temp S		Page 1	date	time

SC

Analyzed By:

Reviewed By:

15:14

Date Analyzed:

Date Reviewed:

Analysis:	-	Tota	l Suspende	d Solids			Method:	EPA SM 254	0 D	
	<u></u>		CCV	Verification S	SN: 67095					
l st weigh	1.0000 g	≤(+/- 0.1%)	2 nd weigh	0.0100 g	≤(+/- 0,1%)	^{3rd} weigh	1.0000 g	≤(+/- 0.1%)	^{4rd} weigh	0.0100 g
CCV1	1,0000	100.00%	CCV2	0.0100	100.00%	CCV5	1.0000	100.00%	CCV6	0.0100
Date/time	6/1/2016	· · · · · · · · · · · · · · · · · · ·	Date/time	6/1/2016		Date/time	6/1/2016		Date/timε	6/1/2016
CCV3	1.0000	100.00%	CCV4	0.0100	100.00%	CCV7	1.0000	100.00%	CCV8	0.0100
Date/time	6/1/2016	<u> </u>	Date/time	6/1/2016		Date/time	6/1/2016		Date/timε	6/1/2016
1 st weigh	1.0000 g	<(+/- 0.1%)	2 nd weigh	0.0100 g	<(+/- 0.1%)	^{3rd} weigh	1.0000 g	<(+/- 0,1%)	^{4rd} weigh	0.0100 g
CCV9	l little g	0.00%	CCV10		0.00%	CCV13		0.00%	CCV14	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Date/time			Date/time			Date/time		<u> </u>	Date/time	
CCV11		0.00%	CCV12		0.00%	CCV15		0.00%	CCV16	
Date/time				***************************************		Date/time			Date/time	
1 st weigh	1.0000 g	<(+/- 0.1%)	2 nd weigh	0.0100 g	<(+/- 0.1%)	^{3rd} weigh	1.0000 g	<(÷/- 0.1%)	^{4rd} weigh	0.0100 g
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV	
Date/time			Date/time			Date/time			Date/time	-
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV	
Date/time			Date/time			Date/time			Date/time	
l st weigh	1.0000 g	≤(+/- 0.1%)	2 nd weigh	0.0100 g	<(+/- 0.1%)	^{3rd} weigh	1.0000 g	<(+/- 0.1%)	^{4rd} weigh	0.0100 g
CCV	1.0000 5	0.00%	CCV	0.0100 g	0.00%	CCV	1.0000 д	0.00%	CCV	0.0100 8
Date/time		<u> </u>	Date/time			Date/time			Date/time	
CCV		0.00%	CCV		0.00%	CCV		0.00%	CCV	***************************************
Date/time		4	Date/time			Date/time		<u> </u>	Date/time	

l weigh	1.0000 g	≤(+/- 0.5%)	2 weigh	0.0100 g	≤(+/- 0.5%)	weigh	1.0000 g	≤(+/- 0.5%)	weigh	0.0100 g
CCV1		0.00%	CCV2		0.00%	CCV5		0.00%	CCV6	
CCV3		0.00%	CCV4		0.00%	CCV7		0.00%	CCV8	

Page of

Work	Original Original ()K1605511, 5512, 5698, 574°	7. 5750.5782.5862 5425
Tier:	The second secon	V V V V
Date	Analyzed: 6/11/16 5516, 5558, 56	527, 5657, 5695, 5879, 5916
Analy		III V II I
Analy	Day In	
zsimij	ysis.	DOC: 500528, 500529
	DATA QUALITY REPORT INORGANICS	DOC: 506528, 500529 TOC 500530, 500531
Expla	ain any "no" responses to questions below, and any corrective actions in the co	omments section below.
1.	Is the method name and number correct and appropriate?	(Jeg/no/NA
2.	Holding times met for all analyses and for all samples?	(ves/no/NA
3.	Are calculations correct?	(yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA)
5.	All quality control criteria met?	yes/fio
6.	Is the calibration curve correlation coefficient ≥ 0.995 ?	(yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	ves(no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/fio/NA
9.	Are results for methods blanks all ND?	(yes)no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes(nd/NA
11.	Are all exceptions explained?	/yes/no/NA
12.	Have all applicable service requests been reviewed?	(yes/no/NA
13.	Are all samples labeled correctly?	vesmo/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	(FeSyno/NA
15.	Are detection limits and units reported correctly?	(yes)no/NA
16.	Is the unused space on the benchsheet crossed out?	(yes/po/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	vernoNA
COM	L> 5511, 5512, 5698, 5749, 5750, 5516, 5627, 58 IMENTS:	79, 5916
	-8/d, 5512-2/d, 5749-1/d, 5750-1/d,	5782-2/1, 5862-2/1
3469	5-6/1, 5695-3/1,5879-1/1,5916-2/	d RPD not within acceptunce
in.	'ts; the sample results are less than	5x the MRL.
CB	7 Fail - RA 5558-43,46,49, 5627-6	15657-9, 12,15, 5695-2
he c	other samples in the failing brackets are	20x greater than CB7
Final .	Approved by: Hwy Date: 06/19	DOREPORT
	$m{y}$	
	•	

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: Method/Testcode: SM 5310 C/TOC D 500528

ab Code	Target Analytes QC	Parent Sample	Matrix		Sample Amt.	Final Result Di		POL % Re	c % RSD	Date Analyzed			
11605511-005	Carbon, Dissolved Organic N/A (DOC)		Water	0.90 mg/L	10 ml	0.90 mg/L = 1	0.07	0.50		6/11/16 16:03	N	III	
11605511-006	Carbon, Dissolved Organic N/A (DOC)		Water	0.43 mg/L	10 ml	0.43 mg/L J 1	0.07	0.50		6/11/16 16:03	N	III	
11605511-007	Carbon, Dissolved Organic N/A (DOC)		Water	3.01 mg/L	10 ml	3.01 mg/L 1	0.07	0.50		6/11/16 16:03	Y	Ш	
1605511-008	Carbon, Dissolved Organic N/A (DOC)		Water	0.52 mg/L	10 ml	0.52 mg/L 1	0.07	0.50		6/11/16 16:03	N	III	
(1605511-009	Carbon, Dissolved Organic N/A (DOC)		Water	1.04 mg/L	10 ml	1.04 mg/L I	0.07	0.50		6/11/16 16:03	N	Ш	
11605511-010	Carbon, Dissolved Organic N/A (DOC)		Water	2.76 mg/L	10 ml	2.76 mg/L 1	0.07	0.50		6/11/16 16:03	N	III	
1605511-011	Carbon, Dissolved Organic N/A (DOC)		Water	0.90 mg/L	10 ml	0.90 mg/L 1	0.07	0.50		6/11/16 16:03	N	Ш	•
11605512-001	Carbon, Dissolved Organic N/A (DOC)		Water	2.49 mg/L	10 ml	2.49 mg/L 1	0.07	0.50		6/11/16 16:03	Ν	III	
11605512-002	Carbon, Dissolved Organic N/A (DOC)		Water	1.30 mg/L	10 ml	1.30 mg/L 1	0.07	0.50	•	6/11/16 16:03	N	ш	
1605512-003	Carbon, Dissolved Organic N/A (DOC)	· ************************************	Water	0.81 mg/L	10 ml	0.81 mg/L 1	0.07	0.50		6/11/16 16:03	N	Ш	40
11605512-004	Carbon, Dissolved Organic N/A (DOC)		Water	0.75 mg/L	10 ml	0.75 mg/L 1	0.07	0.50		6/11/16 16:03	N	Ш	of 1
11605512-005	Carbon, Dissolved Organic N/A (DOC)		Water	2.55 mg/L	10 ml	2.55 mg/L 1	0.07	0.50		6/11/16 16:03	N	m	e 47
11605512-006	Carbon, Dissolved Organic N/A (DOC)		Water	0.56 mg/L	10 ml	. 0.56 mg/L 1	0.07	0.50	711111111111111111111111111111111111111	6/11/16 16:03	N	Ш	Page
11605512-007	Carbon, Dissolved Organic N/A (DOC)		Water	3.08 mg/L	10 ml	3.08 mg/L 1	0.07	0.50		6/11/16 16:03	N	Ш	
11605698-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.25 mg/L	10 ml	2.25 mg/L 1	0.07	0.50		6/11/16 16:03	N	V	
(1605749-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.53 mg/L	10 ml	2.53 mg/L 1	0.07	0.50	****	6/11/16 16:03	N	V	-
Q1606461-01	Carbon, Dissolved Organic DUP (DOC)	K1605511-005	Water	0.91 mg/L	10 ml	0.91 mg/L 1	0.07	0.50	<1	6/11/16 16:03	N	III	
Q1606461-02	Carbon, Dissolved Organic DUP (DOC)	K1605511-006	Water	0.46 mg/L	10 ml	0.46 mg/L J 1	0.07	0.50	6	6/11/16 16:03	N	Ш	
Q1606461-03	Carbon, Dissolved Organic MS (DOC)	K1605511-007	Water	29.75 mg/L	10 ml	29.7 mg/L 1	0.07	0.50 107	***************************************	6/11/16 16:03	N	111	•
CQ1606461-04	Carbon, Dissolved Organic DUP (DOC)	K1605511-007	Water	2.96 mg/L	10 ml	2.96 mg/L 1	0.07	0.50	2	6/11/16 16:03	N	III	
CQ1606461-05	Carbon, Dissolved Organic DUP (DOC)	K1605511-008	Water	0.37 mg/L	10 ml	0.37 mg/L J 1	0.07	0.50	33*	6/11/16 16:03	N	Ш	
Q1606461-06	Carbon, Dissolved Organic DUP (DOC)	K1605511-009	Water	0.95 mg/L	10 ml	0.95 mg/L 1	0.07	0.50	10	6/11/16 16:03	N	III	-
CQ1606461-07	Carbon, Dissolved Organic DUP (DOC)	K1605511-010	Water	2.79 mg/L	10 ml	2.79 mg/L 1	0.07	0.50	1	6/11/16 16:03	Ν	Ш	
indicates Final Result	is not yet adjusted for Solids because	e it has not yet been d	etermined.		0.	6/15/16		CE5	6/14	1/16			
rinted 6/14/16 18:37				Result	s Summary	6/15/16 Tuys					Page	1 of 3	

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Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500528 Method/Testcode: SM 5310 C/TOC D

<u>ab Code</u> Q1606461-08	Target Analytes QC Carbon, Dissolved Organic DUP (DOC)	Parent Sample K1605511-011	Matrix Water	Raw Result 0.82 mg/L	Sample Amt. 10 ml	Final Result 0.82 mg/L		<u>MDL</u> 0.07	PQL 0.50	% Rec	% RSD 10	Date Analyzed 6/11/16 16:03	QC?	Tier III
Q1606461-09	Carbon, Dissolved Organic MS (DOC)	K1605512-001	Water	28.94 mg/L	10 ml	28.9 mg/L	1	0.07	0.50	106		6/11/16 16:03	N	III
.Q1606461-10	Carbon, Dissolved Organic DUP (DOC)	K1605512-001	Water	2.41 mg/L	10 ml	2.41 mg/L	1	0.07	0.50		3	6/11/16 16:03	N	ш
.Q1606461-11	Carbon, Dissolved Organic DUP (DOC)	K1605512-002	Water	1.10 mg/L	10 ml	1.10 mg/L	1	0.07	0.50		17*	6/11/16 16:03	N	m
Q1606461-12	Carbon, Dissolved Organic DUP (DOC)	K1605512-003	Water	0.74 mg/L	10 ml	0.74 mg/L	1	0.07	0.50		10	6/11/16 16:03	N	Ш
Q1606461-13	Carbon, Dissolved Organic DUP (DOC)	K1605512-004	Water	0.76 mg/L	10 ml	0.76 mg/L	1	0.07	0.50		2	6/11/16 16:03	N	III
Q1606461-14	Carbon, Dissolved Organic DUP (DOC)	K1605512-005	Water	2.57 mg/L	10 ml	2.57 mg/L	1	0.07	0.50		1	6/11/16 16:03	N	Ш
.Q1606461-15	Carbon, Dissolved Organic DUP (DOC)	K1605512-006	Water	0.60 mg/L	10 ml	0.60 mg/L	1	0.07	0.50		7	6/11/16 16:03	N	III
.Q1606461-16	Carbon, Dissolved Organic DUP (DOC)	K1605512-007	Water	2.98 mg/L	10 ml	2.98 mg/L	1	0.07	0.50		3	6/11/16 16:03	N	Ш
Q1606461-17	Carbon, Dissolved Organic MS (DOC)	K1605698-001	Surface Water	28.15 mg/L	10 ml	28.1 mg/L	1	0.07	0.50	104		6/11/16 16:03	N	V
.Q1606461-18	Carbon, Dissolved Organic DMS (DOC)	K1605698-001	Surface Water	27.69 mg/L	10 ml	27.7 mg/L	1	0.07	0.50	102	2	6/11/16 16:03	N	V
Q1606461-19	Carbon, Dissolved Organic DUP (DOC)	K1605698-001	Surface Water	2.14 mg/L	10 ml	2.14 mg/L	1	0.07	0.50		5	6/11/16 16:03	N	V
.Q1606461-20	Carbon, Dissolved Organic MS (DOC)	K1605749-001	Surface Water	27.95 mg/L	10 ml	27.9 mg/L	1	0.07	0.50	102		6/11/16 16:03	N	V
Q1606461-21	Carbon, Dissolved Organic DMS (DOC)	K1605749-001	Surface Water	27.85 mg/L	10 ml	27.9 mg/L	1	0.07	0.50	101	<1	6/11/16 16:03	N	V
Q1606461-22	Carbon, Dissolved Organic DUP (DOC)	K1605749-001	Surface Water	2.25 mg/L	10 ml	2,25 mg/L	1	0.07	0.50		12*	6/11/16 16:03	N	V
.Q1606461-23	Carbon, Dissolved Organic MB (DOC)		Water	-0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/11/16 16:03	N	Ш
.Q1606461-24	Carbon, Dissolved Organic LCS (DOC)	·	Water	24.63 mg/L	10 ml	24.6 mg/L	ļ	0.07	0.50	103	***************************************	6/11/16 16:03	N	III
.Q1606461-25	Carbon, Dissolved Organic CCV (DOC)		Water	24.41 mg/L	10 ml	24.4 mg/L	1			98		6/11/16 16:03	N	Ш
.Q1606461-26	Carbon, Dissolved Organic CCV (DOC)		Water	24.27 mg/L	10 ml	24.3 mg/L	1			97		6/11/16 16:03	N	III
Q1606461-27	Carbon, Dissolved Organic CCV (DOC)		Water	23.54 mg/L	10 ml	23.5 mg/L	1			94		6/11/16 16:03	N	III
.Q1606461-28	Carbon, Dissolved Organic CCV (DOC)		Water	23.59 mg/L	10 ml	23.6 mg/L	1			94		6/11/16 16:03	N	III
.Q1606461-29	Carbon, Dissolved Organic CCB (DOC)		Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50	•		6/11/16 16:03	N	III
.Q1606461-30	Carbon, Dissolved Organic CCB (DOC)		Water	-0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/11/16 16:03	N	Ш

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Instrumeut Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500528 Method/Testcode: SM 5310 C/TOC D

_ab Code	Target Analytes QC	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Dil	MDL	POL % Rec	% RSD	Date Analyzed	QC?	<u>Tier</u>
₹Q1606461-31	Carbon, Dissolved Organic CCB		Water	-0.02 mg/L	10 ml	$0.50~\mathrm{mg/L}~\mathrm{U}$ 1	0.07	0.50		6/11/16 16:03	N	Ш
ζQ1606461-32	(DOC) Carbon, Dissolved Organic CCB (DOC)		Water	-0.05 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/11/16 16:03	N	ш

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500529 Method/Testcode: SM 5310 C/TOC D

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Lab Code	Target Analytes QC	Parent Sample	<u>Matrix</u>		Sample Amt.	***************************************		<u>MDL</u>	<u>PQL</u>	% Rec	% RSD	Date Analyzed	<u> </u>	Tier 1	
K1605750-001	Carbon, Dissolved Organic N/A (DOC)		Water	0.53 mg/L	. 10 ml	0.53 mg/L	1	0.07	0.50			6/11/16 16:03	N	IV	
K1605750-002	Carbon, Dissolved Organic N/A (DOC)		Water	9.89 mg/L	10 ml	9.89 mg/L	1	0.07	0.50			6/11/16 16:03	N	IV	ĺ
K1605750-003	Carbon, Dissolved Organic N/A (DOC)		Water	9.50 mg/L	10 ml	9.50 mg/L	1	0.07	0.50			6/11/16 16:03	И	IV	
K1605750-004	Carbon, Dissolved Organic N/A (DOC)		Water	9.55 mg/L	. 10 ml	9.55 mg/L	1	0.07	0.50	***************************************	·····	6/11/16 16:03	N	ΙV	 I
K1605750-005	Carbon, Dissolved Organic N/A (DOC)		Water	7.07 mg/L	. 10 ml	14.1 mg/L	2	0.2	1.0			6/11/16 16:03	N	IV	
K1605782-001	(DOC) Carbon, Dissolved Organic N/A (DOC)		Surface Water	1.77 mg/L	. 10 ml	1.77 mg/L		0.07	0.50			6/11/16 16:03	N	V	
K1605782-002	Carbon, Dissolved Organic N/A (DOC)		Surface Water	1.73 mg/L	. 10 ml	1.73 mg/L	1	0.07	0.50			6/11/16 16:03	N	V	
K1605862-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	1.87 mg/L	. 10 ml	1.87 mg/L	1	0.07	0.50			6/11/16 16:03	N	V	
K1605862-002	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.04 mg/L	. 10 ml	2.04 mg/L	1	0.07	0.50	<u> </u>		6/11/16 16:03	N	v	į
K1605862-003	Carbon, Dissolved Organic N/A (DOC)		Surface Water	0.08 mg/L	. 10 ml	0.08 mg/L J	1	0.07	0.50			6/11/16 16:03	N	V	40
KQ1606462-01	Carbon, Dissolved Organic MS (DOC)	K1605750-001	Water	25.90 mg/L	. 10 ml	25.9 mg/L	1	0.07	0.50	101		6/11/16 16:03	N		of 1,
KQ1606462-02	Carbon, Dissolved Organic DUP (DOC)	K1605750-001	Water	0.34 mg/L	. 10 ml	0.34 mg/L J	1	0.07	0.50	····	44*	6/11/16 16:03	И	IV	50
KQ1606462-03	Carbon, Dissolved Organic DUP (DOC)	K1605750-002	Water	9.64 mg/L	. 10 ml	9.64 mg/L	1	0.07	0.50		2	6/11/16 16:03	N	IV	Page
KQ1606462-04	Carbon, Dissolved Organic DUP (DOC)	K1605750-003	Water	9.51 mg/L	. 10 ml	9.51 mg/L	1	0.07	0.50		<1	6/11/16 16:03	N	IV	ı
KQ1606462-05	Carbon, Dissolved Organic DUP (DOC)		Water	9.60 mg/L		9.60 mg/L		0.07	0.50		<1	6/11/16 16:03	N	ΙV	_
KQ1606462-06	Carbon, Dissolved Organic DUP (DOC)	K1605750-005	Water	6.98 mg/L	. 10 ml	14.0 mg/L	2	0.2	1.0		1	6/11/16 16:03	N	IV	_
KQ1606462-07	Carbon, Dissolved Organic MS (DOC)	K1605782-001	Surface Water	27.43 mg/L	, 10 ml	27.4 mg/L	1	0.07	0.50	103		6/11/16 16:03	N	V	
KQ1606462-08	Carbon, Dissolved Organic DMS (DOC)	K1605782-001	Surface Water	27.09 mg/L	. 10 ml	27.1 mg/L	1	0.07	0.50	101	yannan ya	6/11/16 16:03	N	V	
KQ1606462-09	Carbon, Dissolved Organic DUP (DOC)	K1605782-001	Surface Water	1.73 mg/L	. 10 ml	1.73 mg/L	I	0.07	0.50		2	6/11/16 16:03	Ν	V	_
KQ1606462-10	Carbon, Dissolved Organic DUP (DOC)	K1605782-002	Surface Water	1.45 mg/L	. 10 ml	1.45 mg/L	1	0.07	0.50		18*	6/11/16 16:03	N	V	
KQ1606462-11	Carbon, Dissolved Organic MS (DOC)	K1605862-001	Surface Water	27.37 mg/L	10 ml	27.4 mg/L	1	0.07	0.50	102		6/11/16 16:03	N	V	-
KQ1606462-12	Carbon, Dissolved Organic DMS (DOC)	K1605862-001	Surface Water	27.58 mg/L	. 10 ml	27.6 mg/L	1	0.07	0.50	103	<1	6/11/16 16:03	N	V	
KQ1606462-13	Carbon, Dissolved Organic DUP (DOC)	K1605862-001	Surface Water	1.83 mg/L		1.83 mg/L	Į	0.07	0.50		2	6/11/16 16:03	И	V	
l						06/15/16			*		ؤ عدم	11 11			

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

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Analytical Results Summary

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500529 Method/Testcode: SM 5310 C/TOC D

<u>ab Code</u> Q1606462-14	Target Analytes QC Carbon, Dissolved Organic DUP (DOC)	Parent Sample K1605862-002	Matrix Surface Water	Raw Result 1.77 mg/L	Sample Amt. 10 ml	<u>Final Result</u> 1.77 mg/L	**********	MDL 0.07	PQL % Rec 0.50	% RSD 14*	Date Analyzed 6/11/16 16:03	QC? N	Tier V
Q1606462-15	Carbon, Dissofved Organic DUP (DOC)	K1605862-003	Surface Water	9.11999999999991E	10 ml	0.50 mg/L U	1	0.07	0.50	NC	6/11/16 16:03	N	V
CQ1606462-16	Carbon, Dissolved Organic MB (DOC)		Water	1.91999999999992E	10 ml	0.50 mg/L U	1	0.07	0.50		6/11/16 16:03	N	IV
CQ1606462-17	Carbon, Dissolved Organic LCS (DOC)		Water	24.09 mg/L	10 ml	24.1 mg/L	1	0.07	0.50 100		6/11/16 16:03	N	IV
CQ1606462-18	Carbon, Dissolved Organic CCV (DOC)		Water	23.54 mg/L	10 ml	23.5 mg/L	1		94		6/11/16 16:03	N	IV
Q1606462-19	Carbon, Dissolved Organic CCV (DOC)		Water	23.59 mg/L	10 ml	23.6 mg/L	1		94		6/11/16 16:03	N	IV
Q1606462-20	Carbon, Dissolved Organic CCV (DOC)		Water	23.41 mg/L	10 ml	23.4 mg/L	1		94		6/11/16 16:03	N	IV
Q1606462-21	Carbon, Dissolved Organic CCB (DOC)		Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		6/11/16 16:03	N	ΙV
Q1606462-22	Carbon, Dissolved Organic CCB (DOC)		Water	-0.05 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		6/11/16 16:03	N	IV
Q1606462-23	Carbon, Dissolved Organic CCB (DOC)		Water	-0.03 mg/L	10 m!	0.50 mg/L U	1	0.07	0.50		6/11/16 16:03	N	IV

Analysis Lot: Method/Testcode: SM 5310 C/TOC T Instrument Name: K-TOC-01 Analyst: CSETHE 500530

∡ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC?	Tier	
\$1605465-001	Carbon, Total Organic		z ar viic Ontarpite	Water	3.49 mg/L	10 ml		l	0.07	0.50			6/11/16 16:03	N	lV	
<1605465-002	Carbon, Total Organic			Water	3.95 mg/L	10 ml	3.95 mg/L	1	0.07	0.50			6/11/16 16:03	N	IV	
C1605465-003	Carbon, Total Organic			Water	4.79 mg/L	10 ml	4.79 mg/L		0.07	0.50			6/11/16 16:03	N	IV	
ζ1605465-004	Carbon, Total Organic	Ň/A		Water	0.16 mg/L	10 ml	0.16 mg/L J	1	0.07	0.50			6/11/16 16:03	Ň	ΙV	_
<1605465-005	Carbon, Total Organic	N/A		Water	4.22 mg/L	10 ml	4.22 mg/L	1	0.07	0.50			6/11/16 16:03	N	IV	
<1605465-006	Carbon, Total Organic	N/A		Water	2.03 mg/L	10 ml	2.03 mg/L	1	0.07	0.50			6/11/16 16:03	N	IV	
<1605516-001	Carbon, Total Organic	N/A		Water	5.31 mg/L	· 10 ml	5.31 mg/L	1	0.07	0.50			6/11/16 16:03	N	III	
<1605558-009	Carbon, Total Organic	N/A		Water	15.98 mg/L	10 ml	32.0 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	
<1605558-012	Carbon, Total Organic	N/A		Water	16.94 mg/L	10 ml	33.9 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	
C1605558-015	Carbon, Total Organic	N/A		Water	17.82 mg/L	10 ml	35.6 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	_
ζ1605558-026	Carbon, Total Organic	N/A		Water	36.04 mg/L	10 ml	72.1 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	
ζ1605558-029	Carbon, Total Organic	N/A		Water	39.91 mg/L	10 ml	79.8 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	
<1605558-032	Carbon, Total Organic	N/A		Water	38.17 mg/L	10 ml	76.3 mg/L	2	0.2	1.0			6/11/16 16:03	N	V	
<1605558-043	Carbon, Total Organic	N/A		Water	. 7.60 mg/L	10 ml	7.60 mg/L	1	0.07	0.50			6/11/16 16:03	N	V	
<1605558-046	Carbon, Total Organic	N/A		Water	6.24 mg/L	10 ml	6.24 mg/L	1	0.07	0.50.			6/11/16 16:03	N	V	40
<1605558-049	Carbon, Total Organic	N/A	<u></u>	Water	6.25 mg/L	10 mI	6.25 mg/L	I	0.07	0.50			6/11/16 16:03	N	V	of 1
£1605627-006	Carbon, Total Organic	N/A		Water	4.97 mg/L	10 ml	$4.97~\mathrm{mg/L}$	1	0.07	0.50			6/11/16 16:03	N	Ш	
<1605657 - 009	Carbon, Total Organic	N/A		Water	5.66 mg/L	10 mI	5.66 mg/L	1	0.07	0.50			6/11/16 16:03	N	V	e 52
ζ1605657-012	Carbon, Total Organic	N/A		Water	5.74 mg/L	10 ml	5.74 mg/L	1	0.07	0.50			6/11/16 16:03	N	V	, ag
<1605657-015	Carbon, Total Organic	N/A		Water	5.44 mg/L	10 ml	5.44 mg/L	1	0.07	0.50			6/11/16 16:03	Ŋ	V	Ф
KQ1606464-01	Carbon, Total Organic	MS	K1605465-001	Water	29.62 mg/L	10 ml	29.6 mg/L	l	0.07	0.50	105		6/11/16 16:03	N	ΙV	
SQ1606464-02	Carbon, Total Organic	DUP	K1605465-001	Water	3.44 mg/L	10 ml	3.44 mg/L	1	0.07	0.50		ì	6/11/16 16:03	И	ΙV	
KQ1606464-03	Carbon, Total Organic	DUP	K1605465-002	Water	3.71 mg/L	10 ml	3.71 mg/L	1	0.07	0.50		6	6/11/16 16:03	N	ΙV	
SQ1606464-04	Carbon, Total Organic	DUP	K1605465-003	Water	4.54 mg/L	10 ml	4.54 mg/L	1	0.07	0.50		5	6/11/16 16:03	N	IV	
CQ1606464-05	Carbon, Total Organic	DUP	K1605465-004	Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50	•	NC	6/11/16 16:03	N	ĮV	_
KQ1606464-06	Carbon, Total Organic	DUP	K1605465-005	Water	4.08 mg/L	10 ml	4.08 mg/L	1	0.07	0.50		3	6/11/16 16:03	N	IV	
KQ1606464-07	Carbon, Total Organic	DUP	K1605465-006	Water	1.79 mg/L	10 ml	1.79 mg/L	1	0.07	0.50		13*	6/11/16 16:03	N	ΙV	
XQ1606464-08	Carbon, Total Organic	MS	K1605516-001	Water	31.09 mg/L	10 ml	31.1 mg/L]	0.07	0.50	103		6/11/16 16:03	N	III	_
KQ1606464-09	Carbon, Total Organic	DUP	K1605516-001	Water	5.11 mg/L	10 ml	5.11 mg/L	1	0.07	0.50		4	6/11/16 16:03	N	III	
KQ1606464-10	Carbon, Total Organic	MS	K1605558-009	Water	43.33 mg/L	10 ml	86.7 mg/L	2	0.2	1.0	109		6/11/16 16:03	N	V	
KQ1606464-11	Carbon, Total Organic	DUP	K1605558-009	Water	16.15 mg/L	10 ml	32.3 mg/L		0.2	1.0		5	6/11/16 16:03	N	V	_
KQ1606464-12	Carbon, Total Organic	DUP	K1605558-012	Water	17.04 mg/L	10 ml	34.1 mg/L	2	0.2	1.0		<1	6/11/16 16:03	N	V	
KQ1606464-13	Carbon, Total Organic	DUP	K1605558-015	Water	17.29 mg/L	10 ml	34.6 mg/L	2	0.2	1.0		3	6/11/16 16:03	N	V	
KQ1606464-14	Carbon, Total Organic	DUP	K1605558-026	Water	35.91 mg/L		71.8 mg/L		0.2	1.0		<1	6/11/16 16:03	N	V	_
KQ1606464-15	Carbon, Total Organic	DUP	K1605558-029	Water	41.00 mg/L	10 ml	82.0 mg/L	2	0.2	1.0		3	6/11/16 16:03	N	V	
KQ1606464-16	Carbon, Total Organic	DUP	K1605558-032	Water	38.12 mg/L	10 ml	76.2 mg/L	2	0.2	1.0		<1	6/11/16 16:03	N	V	
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⁴ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

06/15/16 Frupil CES 6/14/16 Results Summary

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Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500530 Method/Testcode: SM 5310 C/TOC T

Lab Code	Target Analytes	<u>QC</u>	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Dil	MDL.	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier	
KQ1606464-17	Carbon, Total Organic	DUP	K1605558-043	Water	6.91 mg/L	10 ml	6.91 mg/L 1	0.07	0.50		9	6/11/16 16:03	N	V	
KQ1606464-18	Carbon, Total Organic	DUP	K1605558-046	Water	6.24 mg/L	10 ml	6.24 mg/L 1	0.07	0.50		<1	6/11/16 16:03	N	V	
KQ1606464-19	Carbon, Total Organic	DUP	K1605558-049	Water	6.26 mg/L	10 ml	6.26 mg/L 1	0.07	0.50		<1	6/11/16 16:03	N	V	
KQ1606464-20	Carbon, Total Organic	DUP	K1605627-006	Water	4.94 mg/L	10 ml	4.94 mg/L 1	0.07	0.50		<1	6/11/16 16:03	Ν	Ш	
KQ1606464-21	Carbon, Total Organic	MS	K1605657-009	Water	31.30 mg/L	10 ml	31.3 mg/L 1	0.07	0.50	103		6/11/16 16:03	N	V	
KQ1606464-22	Carbon, Total Organic	DUP	K1605657-009	Water	5.55 mg/L	10 ml	5.55 mg/L 1	0.07	0.50		2	6/11/16 16:03	N	V	
KQ1606464-23	Carbon, Total Organic	DUP	K1605657-012	Water	5.62 mg/L	10 ml	5.62 mg/L 1	0.07	0.50		. 2	6/11/16 16:03	N	\overline{v}	
KQ1606464-24	Carbon, Total Organic	DUP	K1605657-015	Water	5.39 mg/L	10 ml	5.39 mg/L 1	0.07	0.50		<1	6/11/16 16:03	N	V	
KQ1606464-25	Carbon, Total Organic	MB		Water	9.51999999999997E	10 ml	0.50 mg/L U 1	0.07	0.50			6/11/16 16:03	N	IV	
KQ1606464-26	Carbon, Total Organic	LCS		Water	24.38 mg/L	10 ml	24.4 mg/L 1	0.07	0.50	102		6/11/16 16:03	N	IV	
KQ1606464-27	Carbon, Total Organic	CCV		Water	23.59 mg/L	10 ml	23.6 mg/L 1			94		6/11/16 16:03	N	IV	
KQ1606464-28	Carbon, Total Organic	CCV		Water	23.41 mg/L	10 ml	23.4 mg/L 1			94		6/11/16 16:03	N	IV	
KQ1606464-29	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L 1			95		6/11/16 16:03	N	ΙV	
KQ1606464-30	Carbon, Total Organic	CCV		Water	24.25 mg/L	10 ml	24.3 mg/L 1			97		6/11/16 16:03	N	IA	
KQ1606464-31	Carbon, Total Organic	CCV		Water	23.59 mg/L	10 ml	23.6 mg/L 1			94		6/11/16 16:03	N	IV	40
KQ1606464-32	Carbon, Total Organic	ССВ		Water	-0.05 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50			6/11/16 16:03	N	IV 1	Ť
KQ1606464-33	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50			6/11/16 16:03	N	IV ,	3 of
KQ1606464-34	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50			6/11/16 16:03	N	IN ;	ວິ
KQ1606464-35	Carbon, Total Organic	ССВ		Water	0.53 mg/L	10 ml	0.53 mg/L 1	0.07	0.50	······································		6/11/16 16:03	N		age
KQ1606464-36	Carbon, Total Organic	CCB		Water	7.741999999999999E	10 mi	0.08 mg/L J 1	0.07	0.50			6/11/16 16:03	N	IN (Δ.

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Instrument Name: K-TOC-01 Analyst: CSETHE Analysis Lot: 500531 Method/Testcode: SM 5310 C/TOC T

∡ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Aint.	Final Result D	<u>il M</u> J	L PO	L % Re	% RSD	Date Analyzed	QC?	Tier	
(1605695-001	Carbon, Total Organic	N/A		Water	1.90 mg/L	l0 ml	1.90 mg/L 1	0	07 0.		-	6/11/16 16:03	N	IV	
(1605695-002	Carbon, Total Organic	N/A		Water	0.29 mg/L	10 ml	1.1 mg/L J 4	1).3	2.0		6/11/16 16:03	N	ΙV	
ζ1605695-003	Carbon, Total Organic	N/A		Water	0.38 mg/L	10 ml	0.38 mg/L J 1	0	07 0.	50		6/11/16 16:03	N	ΙV	
(1605879-001	Carbon, Total Organic	N/A		Drinking Water	0.88 mg/L	10 ml	0.88 mg/L 1	0	07 0.	50	······································	6/11/16 16:03	N	Ĭ	_
\$1605916-002	Carbon, Total Organic	N/A		Drinking Water	0.81 mg/L	10 ml	0.81 mg/L 1	0	07 0.	50		6/11/16 16:03	N	Ι	
C1605916-003	Carbon, Total Organic	N/A		Drinking Water	0.37 mg/L	10 ml	0.50 mg/L U l	0	07 0.	50		6/11/16 16:03	Ň	Ι	
Q1606465-01	Carbon, Total Organic	MS	K1605695-001	Water	25.90 mg/L	10 ml	25.9 mg/L 1	0.	07 0.	50 96		6/11/16 16:03	N	ΙV	-
Q1606465-02	Carbon, Total Organic	DUP	K1605695-001	Water	1.79 mg/L	10 ml	1.79 mg/L 1	0	07 0.	50	6	6/11/16 16:03	N	ΙV	
Q1606465-03	Carbon, Total Organic	DUP	K1605695-002	Water	0.20 mg/L	10 ml	0.8 mg/L J 4	1	0.3 2	2.0	37*	6/11/16 16:03	N	ΙV	
Q1606465-04	Carbon, Total Organic	DUP	K1605695-003	Water	0.29 mg/L	10 ml	0.29 tng/L J 1	0	07 0.	50	28*	6/11/16 16:03	N	ΙV	_
Q1606465-05	Carbon, Total Organic	DUP	K1605879-001	Drinking Water	0.79 mg/L	10 ml	0.79 mg/L 1	0	07 0.	50	11*	6/11/16 16:03	N	Ĭ	
CQ1606465-06	Carbon, Total Organic	DUP	K1605916-002	Drinking Water	0.66 mg/L	10 ml	0.66 mg/L 1	0	07 0.	50	21*	6/11/16 16:03	N	I	
Q1606465-07	Carbon, Total Organic	DUP	K1605916-003	Drinking Water	0.32 mg/L	10 ml	0.32 mg/L J 1	0.	07 0.	50	NC	6/11/16 16:03	N	I	- 0+
CQ1606465-08	Carbon, Total Organic	MB		Water	9.5199999999997E	10 ml	0.50 mg/L U 1	0.	07 0.	50		6/11/16 16:03	N	IV	f 1,
CQ1606465-09	Carbon, Total Organic	LCS		Water	24.38 mg/L	10 ml	24.4 mg/L 1	0.	07 0.	50 102		6/11/16 16:03	N	ΙV	0
Q1606465-10	Carbon, Total Organic	CCV	,	Water	23.41 mg/L	10 ml	23.4 mg/L 1			94		6/11/16 16:03	N	IV	e 5
Q1606465-11	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L 1			95		6/11/16 16:03	N	IV	ag
CQ1606465-12	Carbon, Total Organic	CCV		Water	23.59 mg/L	10 ml	23.6 mg/L 1			94		6/11/16 16:03	N	ΙV	Д
Q1606465-13	Carbon, Total Organic	CCV		Water	23.22 mg/L	10 ml	23.2 mg/L 1			93		6/11/16 16:03	N	ΙV	_
Q1606465~14	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U 1	0.	07 0.	50		6/11/16 16:03	N	ΙV	
Q1606465-15	Carbon, Total Organic	CCB		Water	$0.00~\mathrm{mg/L}$	10 ml	0.50 mg/L U 1	0.	07 0.	50		6/11/16 16:03	N	ΙV	
Q1606465-16	Carbon, Total Organic	CCB	***************************************	Water	7,74199999999999E	10 ml	0.08 mg/L J 1	0.	07 0.	50		6/11/16 16:03	N	ΙV	•
CQ1606465-17	Carbon, Total Organic	CCB		Water	$0.03\mathrm{mg/L}$	10 ml	0.50 mg/L U 1	0.	07 0.	50		6/11/16 16:03	N	ΙV	

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CES 6/14/16

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

DOC: 500528, 500529

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
СВА	RB	1		0.6949	-0.6949	-0.69488	<0.5	
2	CCV1	1	25.104	0.6949	24.4092	24.40922	24.4	
3	CCB1	1	0.736	0.6949	0.0408	0.04082	< 0.5	
4	MB1 ·] -	0.630	0.6949	-0.0649	-0.06488	<0.5	
5	LCS1	1	25.324	0.6949	24.6292	24.62922	24.6	
6	ICS	1	1.151	0.6949	0.4558	0.45582	< 0.5	
7	K1605511-005	1	1.600	0.6949	0.9048	0.90482	0.90	
8	K1605511-005d	1	1.604	0.6949	0.9086	0.90862	0.91	
9	K1605511-006	1	1.125	0.6949	0.4297	0.42972	< 0.5	
10	K1605511-006d	1 .	1.151	0.6949	0.4562	0.45622	< 0.5	
11	K1605511-007	I.	3.705	0.6949	3.0104	3.01042	3.01	
12	K1605511-007d	1	3.653	0.6949	2.9583	2.95832	2.96	
13	K1605511-008	1	1.211	0.6949	0.5158	0.51582	0.52	
14	K1605511-008d	1	1.063	0.6949	0.3681	0.36812	< 0.5	
15	K1605511-009	1	1.739	0.6949	1.0439	1.04392	1.04	
16	K1605511-009d	1	1.644	0.6949	0.9490	0.94902	0.95	
17	K1605511-010	1	3.456	0.6949	2.7613	2.76132	2.76	
18	K1605511-010d	1	3.487	0.6949	2.7925	2.79252	2.79	
19	CCV2	1	24.968	0.6949	24.2730	24.27302	24.3	
20	CCB2	1	0.654	0.6949	-0.0410	-0.04098	< 0.5	
21	K1605511-011	1	1.598	0.6949	0.9034	0.90342	0.90	
22	K1605511-011d	1	1.511	0.6949	0.8157	0.81572	0.82	
. 23	K1605512-001	1	3.187	0.6949	2.4920	2.49202	2.49	
24	K1605512-001d	1.	3.109	0.6949	2.4136	2.41362	2.41	
25	K1605512-001ms	1	29.631	0.6949	28.9365	28.93652	28.9	

ICAL Date 2/29/16 ICAL ID#:11-GEN-05-47A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-48K)

CCV = 25.0 ppm (Ref.#11-GEN-05-49H)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-49C)

ICS TV = 25.0 ppm %Rec= 2 11-GEN-05-49F

			date	time
Analyzed By:	CES	Date Analyzed	6/11/2016	16:03:00
	Name of the state			
Reviewed By:	stricens	Date Reviewed	06/15/16	

Revision 1, 2010 R:\WET\ANALYSES\TOC\TEMPLATE\TOCwaterLIMS

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L
26	K1605512-002	1	1.993	0.6949	1.2982	1.29822	1.30
27	K1605512-002d	1	1.794	0.6949	1.0989	1.09892	1.10
28	K1605512-003	<u>.</u> 1	1.506	0.6949	0.8111	0.81112	0.81
29	K1605512-003d	1	1.432	0.6949	0.7367	0.73672	0.74
30	K1605512-004	1	1.446	0.6949	0.7512	0.75122	0.75
31	K1605512-004d	1	1.459	0.6949	0.7643	0.76432	0.76
32	K1605512-005	1	3.241	0.6949	2.5458	2.54582	2.55
33	K1605512-005d	1	3.266	0.6949	2.5715	2.57152	2.57
34	K1605512-006	1	1.257	0.6949	0.5621	0.56212	0.56
35	K1605512-006d	1	1.297	0.6949	0.6019	0.60192	0.60
36	K1605512-007	1	3.775	0.6949	3.0796	3.07962	3.08
37	K1605512-007d	1	3.675	0.6949	2.9796	2.97962	2.98
38	K1605698-001	. 1	2.944	0.6949	2,2487	2.24872	2.25
39	K1605698-001d	1	2.838	0,6949	2.1430	2.14302	2.14
40	CCV3	1	24.230	0.6949	23.5352	23,53522	23.5
41	CCB3	1	0.670	0.6949	-0.0245	-0.02448	<0.5
42	MB2	1	0.697	0.6949,	0.0019	0.00192	<0.5
43	LCS2	. 1	24.781	0.6949	24.0862	24.08622	24.1
44	K1605698-001ms	1	28.840	0.6949	28.1451	28.14512	28.1
45	K1605698-001msd	1	28.383	0.6949	27.6879	27.68792	2 7 .7
46	K1605749-001	1	3.225	0.6949	2.5296	2.52962	2.53
47	K1605749-001d	1	2.942	0,6949	2.2471	2.24712	2.25
48	K1605749-001ms	. 1	28.641	0.6949	27.9457	27.94572	27.9
49	K1605749-001msd	1	28.546	0.6949	27.8513	27.85132	27.9
50	K1605750-001	1	1.228	0.6949	0.5329	0.53292	0.53

Analyzed By: CES	Date Analyzed	6/11/2016	16:03:00
Reviewed By: Hill	Date Reviewed	06/19/16	***************************************
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Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correctiou, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	K1605750-001d	1	1.036	0.6949	0.3411	0.34112	<0.5	
52	K1605750-001ms	1	26.595	0.6949	25.9002	25.90022	25.9	
53	K1605750-002	1	10.582	0.6949	9.8870	9.88702	9.89	•
54	K1605750-002d	1	10.339	0.6949	9.6442	9.64422	9.64	
55	K1605750-003	1	10.193	0.6949	9.4981	9.49812	9.50	
56	K1605750-003d	1	10.207	0.6949	9.5122	9.51222	9.51	
57	K1605750-004	1	10.242	0.6949	9.5467	9.54672	9.55	
58	K1605750-004d	1	10.293	0.6949	9.5976	9.59762	9.60	
59	CCV4	1	24.282	0.6949	23.5870	23.58702	23.6	
60	CCB4	1	0.642	0.6949	-0.0526	-0.05258	< 0.5	
61	K1605750-005	2	7.763	0.6949	7.0685	14.13704	14.1	
62	K1605750-005d	. 2	7.671	0.6949	6.9756	13.95124	14.0	
63	RB	1	0.647	0.6949	-0.0479	-0.04788	<0.5	
64	RB	1	0.807	0.6949	0.1124	0.11242	< 0.5	
65	K1605782-001	1	2.462	0.6949	1.7674	1.76742	1.77	
66	K1605782-001d	1	2.421	0.6949	1.7260	1.72602	1.73	
67	K1605782-001ms	1	28.126	0.6949	27.4314	27.43142	27.4	
68	K1605782-001msd	1.	27.781	0.6949	27.0857	27.08572	27.1	
.69	K1605782-002	ĺ	2.424	0.6949	1.7286	1.72862	1.73	
70	K1605782-002d	1	2.142	0.6949	1.4470	1.44702	1.45	
71	K1605862-001	1	2.564	0.6949	1.8686	1.86862	1.87	
72	K1605862-001d	1	2.528	0.6949	1.8327	1.83272	1.83	
73	K1605862-001ms	1	28,063	0.6949	27.3676	27.36762	27.4	
. 74	K1605862-001msd	1	28.277	0.6949	27.5820	27.58202	27.6	
75	K1605862-002	1.	2.731	0.6949	2.0364	2.03642	2.04	

Analyzed By:	CES	Date Analyzed	6/11/2016 16:03
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Reviewed By:	MINUM	Date Reviewed	06/15/16

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
76	K1605862-002d	1.	2.465	0.6949	1.7702	1.77022	1.77	
77	K1605862-003	. 1	0.773	0.6949	0.0781	0.07812	< 0.5	
78	K1605862-003d	1	0.704	0.6949	0.0091	0.00912	< 0.5	
79	CCV5	1	24.109	0.6949	23.4136	23.41362	23.4	
80	CCB5	1	0.663	0.6949	-0.0322	-0.03218	< 0.5	200
81	K1605511-007ms	1	30.443	0.6949	29.7479	29.74792	29.7	Out of sequence
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Analyzed By:	CES	Date Analyzed	6/11/2016	16:03:00
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Reviewed By:	Huchia	Date Reviewed	06/19/16	

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Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

TOC: 500530, 500531

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
СВА	RB	1		0.6949	-0.6949	-0.69488	<0.5	
2	CCV4	1	24.282	0.6949	23.5870	23.58702	23.6	
3	CCB4	1	0.642	0.6949	-0.0526	-0.05258	< 0.5	
4	K1605465-001	1	4.181	0.6949	3.4857	3.48572	3.49	
5	K1605465-001d	1	4.131	0.6949	3.4358	3.43582	3.44	
6	CCV5	1	24.109	0.6949	23.4136	23.41362	23.4	
7	CCB5	1	0.663	0.6949	-0.0322	-0.03218	<0.5	
8	MB3	1	0.704	0.6949	0.0095	0.00952	<0.5	
9	LCS3	Ţ	25.072	0.6949	24.3775	24.37752	24,4	
10	K1605465-001ms	1	30.310	0.6949	29.6154	29.61542	29.6	
11	K1605465-002	1	4.646	0.6949	3.9510	3.95102	3.95	
. 12	K1605465-002d	1	4.407	0.6949	3.7125	3.71252	3.71	•
13	K1605465-003	1	5.485	0.6949	4.7899	4.78992	4.79	
14	K1605465-003d	1	5.236	0.6949	4.5415	4.54152	4.54	
15	K1605465-004	1	0.854	0.6949	0.1590	0.15902	<0.5	
16	K1605465-004d	1	0.757	0.6949	0.0617	0.06172	<0.5	
17	K1605465-005	1	4.919	0.6949	4.2238	4.22382	4.22	
18	K1605465-005d	1	4.775	0.6949	4.0798	4.07982	4.08	
- 19	K1605465-006	1	2.724	0.6949	2.0291	2.02912	2.03	
20	K1605465-006d	1	2.485	0.6949	1.7902	1.79022	1.79	
21	K1605516-001	1	6.003	0.6949	5.3080	5,30802	5.31	
22	K1605516-001d	1	5.808	0.6949	5.1134	5.11342	5.11	
23	K1605516-001ms	1	31.782	0.6949	31.0871	31.08712	31,1	
24	CCV6	1	24.420	0.6949	23.7249	23.72492	23.7	
25	CCB6	1	0.690	0.6949	-0.0048	-0.00478	<0.5	:

ICAL Date 2/29/16

ICAL ID#:11-GEN-05-47A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-48K)

CCV = 25.0 ppm (Ref. #11-GEN-05-49H)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-49C)

ICS TV = 25.0 ppm %Rec= 2 11-GEN-05-49F

			date	time
Analyzed By:	CES	Date Analyzed	6/11/2016	16:03:00
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Reviewed By:	June	Date Reviewed	06/19/1	6

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Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K1605558-009	2 .	16.672	0.6949	15.9771	31.95424	32.0	
27	K1605558-009d	2	16.848	0.6949	16.1526	32.30524	32,3.	
28	K1605558-009ms	2	44.023	0.6949	43.3279	86.65584	86.7	
2,9	RB	1	1.564	0.6949	0.8691	0.86912	0.87	
30	RB	1	1.190	0.6949	0.4952	0.49522	< 0.5	
31	K1605558-012	2	17.636	0.6949	16.9406	33.88124	33.9	
32	K1605558-012d	2	17.738	0.6949	17.0427	34.08544	34.1	***************************************
33	K1605558-015	2	18.513	0.6949	17.8178	35.63564	35.6	
34	K1605558-015d	2	17.986	0.6949	17.2913	34.58264	34.6	
35	K1605558-026	2	36.733	0.6949	36.0379	72.07584	72.1	
36	K1605558-026d	2	36.600	0.6949	35.9050	71.81004	71.8	
37	RB ⁻	1	2.241	0.6949	1.5460	1.54602	1.55	
38	RB	1	1.502	0.6949	0.8072	0.80722	0.81	
39	K1605558-029	2	40.605	0.6949	39.9104	79.82084	79.8	
40	K1605558-029d	2	41.693	0.6949	40.9976	81.99524	82,0	
41	K1605558-032	2	38.866	0.6949	38.1709	76.34184	76.3	
42	K1605558-032d	2	38.810	0.6949	38.1153	76.23064	76.2	
43	K1605558-043	1	8.295	0.6949	7.5998	7.59982	7.60	
44	K1605558-043d	. 1	7.609	0.6949	6.9140	6.91402	6.91	
45	CCV7	. 1	24.949	0.6949	24.2540	24.25402	24.3	
46	CCB7	1	1.223	0.6949	0.5285	0.52852	0.53	Political designation and a
47	MB4	1	1.118	0.6949	0.4235	0.42352	<0.5	
48	LCS4	1	25.331	0.6949	24.6359	24.63592	24.6	
49	K1605558-046	1	6.932	0.6949	6.2367	6.23672	6.24	
50	K1605558-046d	1	6.939	0.6949	6.2440	6.24402	6.24	

Analyzed By: CES	Date Analyzed	6/11/16 16:03
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Reviewed By: MUMA	Date Reviewed	06/19/16
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Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
51	K1605558-049	1	6.944	0.6949	6.2487	6.24872	6.25	
52	K1605558-049d	1	6.958	0.6949	6.2626	6.26262	6.26	
53	K1605627-006	1	5.669	0.6949	4.9736	4.97362	4.97	
54	K1605627-006d	-1	5.631	0.6949	4.9356	4.93562	4.94	
55	RB	1	0:834	0.6949	0.1390	0.13902	<0.5	
56	RB	1	0.856	. 0.6949	0.1614	0.16142	<0.5	
57	K1605657-009	1	6.352	0.6949	5.6571	5.65712	5.66	
58	K1605657-009d	1	6.249	0.6949	5.5540	5.55402	5.55	
59	K1605657-009ms	1	31.998	0.6949	31.3034	31.30342	31.3	
60	K1605657-012	1.	6.434	0.6949	5.7391	5.73912	5.74	
61	K1605657-012d	1	6.313	0.6949	5.6184	5.61842	5.62	
62	K1605657-015	1	6.134	0.6949	5.4387	5.43872	5.44	
63	K1605657-015d	1	6.086	0.6949	5.3911	5.39112	5.39	
64	CCV8	1	24.288	0.6949	23.5935	23.59352	23.6	
65	CCB8	1	0.772	0.6949	0.0774	0.07742	< 0.5	
66	K1605695-001	1	2.591	0.6949	1.8964	1.89642	1.90	
67	K1605695-001d	1	2.480	0.6949	1.7855	1.78552	1.79	
- 68	K1605695-001ms	1	26.594	0.6949	25.8995	25.89952	25.9	
69	K1605695-002	4	0.982	0.6949	0.2874	1.14968	1.15	·
70	K1605695-002d	4	0.893	0.6949	0.1976	0.79048	0.79	
71	K1605695-003	1	1.078	0.6949	0.3827	0.38272	<0.5	
72	K1605695-003d	1	0.983	0.6949	0.2884	0.28842	<0.5	
73	K1605879-001	1	1.573	0.6949	0.8776	0.87762	0.88	
74	K1605879-001d	1	1.482	0.6949	0.7868	0.78682	0.79	
75	K1605916-002	1	1.508	0.6949	0.8126	0.81262	0.81	

Analyzed By:	CES	Date Analyzed	6/11/16	16:03
Reviewed By:	HUMM	Date Reviewed	06/19/16	
	▼ 7 II			

Page 61 of 140

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
76	K1605916-002d	1	1.353	0:6949	0.6578	0.65782	0.66	
77	K1605916-003	1	1.062	0.6949	0.3673	0.36732	<0.5	
78	K1605916-003d	1	1.010	0.6949	0.3150	0.31502	< 0.5	
79	CCV9	1	23.913	0.6949	23.2183	23.21832	23.2	
80	CCB9	. 1	0.721	0.6949	0.0256	0.02562	< 0.5	
	and types delined a second			- Charles of the Control of the Cont				
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						atterner of the state of the st	· · · · · · · · · · · · · · · · · · ·	
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		and the same of th		<u> </u>	7.6			
		and the second second						
	· John Marie Comment							
	pur profession and the second							
4	The state of the s	Palaconia del Espas in praemat abult 7	enjanishi de emigran fakuntik ka ngagada kan na Gaya Edelian pe Frika.	-4000 leaved springly all animary 2 months in the 2000 and 2 months in the 2000 and 2 months in the 2000 and 2	CORPUS AND	. Marie Land Committee and Marie Lands and Committee Com	m35-c-marrie-ettel (avinapas-t-marrie-abstyle-marri	

Analyzed By:	155	Date Analyzed	6/11/16 16:03	
Reviewed By:	AUCHII	Date Reviewed	06/19/16	

Page 4 of 4

6-11-16B TOC

DOC: 500528,

500529

50053 i

TOC: 500530,

Schedule: 061116B

Version: 7

Instrument: Fusion1

Last Saved by: Fusion1 (Fusion1)

Last Saved on: 2016/06/11 15:42 - Saturday

10.1000 10.000 10.000 10.000 10.000 10.000	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
Clean)	ē	Clean	AVARAGEMAN AND AND AND AND AND AND AND AND AND A	1		[Done]
Diean)		Clean :: William : Unit in the late			i rue	Done 3.4
Dlean)		Clean		"]		Done :
3lank)		Reagent/Acid Blank		1	True	Running
		[TOC] CCB (0 p[m1]	[CAS_salt_010711 (CAS_salt_010711) -	. Na successoran	maybe a display con-	[Pending]
Williams Weight		[TOC] CCV 25 ppm [25 ppm]	CAS_satE010711 (CAS_satE010711)	1	1,140	[Réady]]]
) 		[TGC CCB [0 ppm)	CAS_salt_010711 (CAS_salt_010711)	4		Ready -
	Sample: Incl. 1997	Met II II is ii	CAS set 0)0711 (CAS set 0)10711)	Ĭij.		Ready,
		[TOC: LCS [24.0 ppm)	CAS_selt_010711 (CAS_selt_010711)	1	True	Ready
	Sample III FILLS		CAS_baic[0107]11(CAS]sah[01071])	irg). I	True.	[Ready:]
	Sample	K1605511-005.03 doc	CAS_salt_010711 (CAS_salt_010711)			Ready
and pilip bib. Anasanasaa	[Sample \id=\id=\id=\id=\id=\id=\id=\id=\id=\id=	K 160551 1 , 006.03 dec 🏗 📆	CAS_salt_010717 (CAS_salt_010711)		True	[Ready]]]
~~ a consumuna en oras	Sample	K1605511-007,13 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
Andrews Constant	Sample Jarania	K1605511-007.13 ms doc	CAS_salt_010711 (CAS_salt_010711)_	7 100 10	True	Ready
Sanat - Sanagari passar associate	Sample	K1605511-008.03 doc	;CAS_sait_010711 (CAS_sait_010711) :		True	Ready
	Sample (K1605511-009.03 doc 📌 🟭	CAS_salt_010711 (CAS_salt_010711)		True	Ready
()		K1605511-010.03 doc	CAS_salt_010711 (CAS_salt_010711)	2		iReady]
		[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)		True	Ready
} *- /***********************************	dere en et el en en en en en en en en bang en en en en bane en en en en	(TOC) CC8 (0 ppm)	[CAS_sait_010711 (CAS_sait_010711)	1	Arrana a a	Ready
		K1605511-017,03 doc 1118111	CAS salt 010711 (CAS salt 0107) 1)		Brue	Ready.]]
eri E.	Sample	K1605512-001,03 dec	CAS_salt_010711 (CAS_salt_010711)	2		Ready
3.515	Sample _{st}	K 1605512-001.03 ms doc	CAS_sart_010717 (CAS_sait_010711)		jirue	Reage
4.	Sample	K 16055 12-002.03 doc	CAS_sait_010711 (CAS_salt_010711)	2		Ready
59474	Sample : : : : : :	K 16055 12-003.03 doc	CAS sait 010711 (CAS sait 0107 (6)	2 [[]	True,	Ready
6	Sample	K 1605512-004.03 doc	CAS salt 010711 (CAS salt 010711)	2	True	iReady :
7 1700	Sample Tille	K1605512-005.03 doc	CAS_salt_010711 (CAS_salt_010711)	2算算[True	Ready III
8	Sample	K 16055 12-006.03 doc	GAS_salt_010711 (CAS_salt_010711)		True	Ready
9 / 1	Sample	K1605512-007.03 doc 夏龍馬	CAS_salt_010711 (CAS_salt_010711)	2 [4]	True	Ready II
Û	Sample	K1605698-001.02 doc	CAS_salt_010711 (CAS_salt_010711)			Ready
	Check Standard	[TOC] CCV 25 ppm [25 ppm] 🗓		7 [[[]	True	Ready []
)		(TCC) CCB (0 ppm)	CAS_salt_010711 (CAS_salt_010711)	a distribution of		Ready
4	Sample ,	MB2	CAS salt 010711 (CAS salt 010711)		Title:	Ready
didioas ditroauluista i	Santa an antara da santa da s	(FOC) LCS (24.0 ppm)	CAS_salt_010711 (CAS_salt_010711)			Ready
247/11	Sample		CAS sait 0107 17 (CAS sait 010711)	The state of the s		Ready
		K 1605749-001.02 doc	化环环化环环环环 化二甲二甲二甲二甲酚磺胺二甲二甲二甲二甲二甲二甲二甲二甲二甲甲二甲二甲二甲二甲二甲二甲二甲二甲二甲二	2	V	Ready
4 - 11 - 11	Sample Fran	K1605749-001.02 ms/msd doc	# into the contribution in the contribution of	2830	man was a will be	Ready
	Sample	K 1605750-001.03 doc	CAS_sait_010711 (CAS_sait_010711)	and the second	SECTION SECTION	Fleady
6 44	å	K1605750-001.03 ms doc	grage cargor and a caracter and are a contracted and are account of the contracted and are	1 75		Ready I
- , , , , , , , , , , , , , , , , , , ,	Sample	K1605750-002.03 doc	CAS_salt_010711 (CAS_salt_010711)	and a second	True	Ready
8	Sample	K1605750-003.03 doc	CAS sait 010711 (CAS salt 010711)			Ready
9		K1605750-004.03 doc	CAS sait 010711 (CAS sait 010711)			Ready
		[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)			Ready [
))	Check Standard	(TOC) CCB (0 ppm)	CAS sait 010711 (CAS sait 010711)		7106	Ready
0		K1605750-005.03 doc 2x 📜	CAS sait 010711 (CAS salt 010711)	2	True	Ready
<u>*</u>	Sample	::::::::::::::::::::::::::::::::::::::	CAS salt 010711 (CAS salt 010711)	$\frac{1}{2}$		Ready
2]	de la seria de la compansión de la compa	K1605782-001.02 dec	CAS salt_010711 (CAS_salt_010711)	2777	0.00	Ready I
5	Sampie		CAS sait 010711 (GAS sait 010711)			-Lastay J Ready
4 II J		K1605782-002.02 doc	CAS salt 010711 (CAS salt 010711)) 78		Ready
71 add 13 d 5		K1605862-001.02 doc	Control Contro	2		Ready
6 []	Sample IIII IIII		.CAS_salt_010711 (CAS_salt_010711)			Ready
	Sample Sample	K1605862-002.02 (toc	CAS_salt_010711 (CAS_salt_010711)			-Ready
8	As array and a production of the same of t		CAS_sait_010711 (CAS_sait_010711)			Ready
эф 19		K1605465-001.05	iCAS_sait_010711 (CAS_sait_010711)			Ready
) Y }						
3	n: June 11, 2016	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	4 39	1100	Ready

Schedule: 061116B

Position	Sample Type	Sample ID	Method ID	(Calibration ID)	Reps	Use	State
D	Check Standard	[TOC] CCB (0 ppm)	CAS_salt	010711 (CAS_salt	010711) 1	True	Ready
40	Sample	IMB3	CAS_salt_	010711 (CAS_sait	010711) [1]	True	Ready
2	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_	010711 (CAS_salt	010711) 1	True	Ready
4100000	Sample	KI 605465-001.05 ms	CAS sait	010711 (CAS_salt	010711) [1]	True	Readyiji
42	Sample	K1605465-002.05	CAS salt	010711 (CAS salt	010711) [2	True	IReady I
143 1911	Sample EVE	K1605465-003.05 排泄型型型型	CAS sait	010711 (CAS salt	010711) 2 2	True	ReadVII
L.A.	Sample	K1605465-004.05	CAS salt	010711 (CAS salt	010711) 2	True	Ready
45	Sample IIIIII	K1605465-005.05	CAS sait	010711 (CAS_salt	050711) 23413	True	Ready
46 .	Sample	K1605465-006.05	ð	010711 (CAS sait			Ready
47	Sample	K1605516-001.04	\$	010711 (CAS salt			Ready III
48	Sample	K1605516-001.04 ms		010711 (CAS salt	uni and a second second second		Ready
B CHEM	<u></u>	TOCLCCV 25 ppm (25 ppm)		010711 (CAS salt			Ready III
D	.)	[TOC CCB [0 ppm]	A	010711 (CAS salt	· · · · · · · · · · · · · · · · · · ·		Ready
49 77 77	Sample - Fill	K 1605558-009.02 2x		010711 (CAS sait	anan manan manan manan katamiran manan manan ka		Ready
50	anting in mauricani Sample	K1605558-009,02 ms 2x		010711 (CAS_salt_			Ready
51383	Sample [[]]	RB. F.	g ,	070711 (CAS sair		lever conserved	Ready II
52	Sample	K1605558-012.02.2x	Barana a a a 1711 - a a a 27	010711 (CAS sait		NOTE OF STREET	Ready
5301114	iSample & William	K1605558-015.02 2x 1 10000000		010711(CAS_salt	real contraction of the contract	tomo	Ready
54	Sample	K1605558-026.02 2x	5	010711 (CAS salt	the contract of the contract o		Ready
55 151111	Sample ET TEN	ke zerze		010711/CAS salt	THE COLUMN TWO IS NOT THE PARTY OF THE PARTY	weeking to a 1-15	Ready
156	Sample	K1605558-029.02 2x		010711 (CAS salt	The control of the co	Maria	Ready
57	Sample 3	K 1605558-032.02 2x THE HEALTH	and the second second	010711 (CAS salt	Contraction of the second of t	regular to the control of	Readvill
158	Sample	K1605558-043.02			010711) 2		Ready
B	.2	(TOC) CCV 25 ppm (25 ppm)		010711 (CAS salt			Ready
D	50	TTOCI CCB 10 ppm1		010711 (CAS sait	Tarana Santa and Aran Santa Sa	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	iReady :
597777	Sample 2.4.1	MB4	Section 100 (100 Person 100 Perso	010711 (CAS salt	Commence of the second		:Ready III
2	North Comment of the	[[FOC] LCS [24.0 ppm]	6	010711 (CAS_salt	Same and the same of the same	a company of the contract of t	Ready
160FINE	Sample All All	K1605558-046.02	g ,	010711 CAS sait	ingganing and a comment of the comme		Readvill
61	Sample	K1605558-049,02	h	010711 (CAS sait	To a reason and a reason of middle and an analysis follows.		Ready
62 770070	Sample United	K1605627-006.06		010711 (CAS salt		A	Ready
63	Sample	RB	·	010711 (CAS_salt	A		Ready :
64 95955	Sample III/IIIII	K1605657-009.02	;	010711 (CAS salt			Ready
65	Sample	K1605657-009.02 ms	L	010711 (CAS salt		44.4	Ready
66	Sample	K1605657-012.02		010711 (CAS_salt_	ing a service and a service an		Ready
67	Sample	K1605657-015.02		010711 (CAS sait	AND A CONTRACTOR OF A CONTRACTOR OF A PROPERTY OF A CONTRACTOR		Ready
B WWW		[TOC] CCV 25 ppm [25 ppm]		010711 (CAS_salt	Toronto and the second		Ready III
		[TOC] CCB [6 ppm]		010711 (CAS salt			Ready
68	Sample 1.14.2	K1605695-001.14	<u> </u>	010711 (CAS salt			Ready
69	Sample	K1605695-001.14 ms	E	010711 (CAS salt			Ready
70 77	Sample 17.79311	K1605695-002.124x.	b	010711 (CAS salt	returning	apa	Ready II
71	Sample	K1605695-003.14		010711 (CAS salt	Same and the second	Sie	Ready
9 2777777	Sample I HE WILL	K1605879-001.01		010711 (CAS salt		ment of the state of	Ready
73	isty or secondular. Sample	in 1999		010711 (CAS sait	The contract of the contract o	676	Ready :
74 1	Sample	K1605916-003.02		010711 (CAS sait	de la companya de la	two is no in	Ready
10 100	Europe (1944) (1944) (1944) (1944) (1944) (1944) (1944) (1944)	[TOC] CCV 25 ppm [25 ppm]		010711 (CAS salt	and the contract of the contra		Ready
n ees		TOCI COB (0 ppm)		010711 (CAS salt		** *** *** *** ***	Ready III
	- ~ C 4 6 4 7 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					False	baran aran Madalah
	L	landostrotates ortes and a technique of the contraction of the contrac	: Farmatuararichat / taranivar	5.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Legenterative accounts;

Printed on: June 11, 2016 15:42:43

0.736	0.736	0.736	0.736	OBSERVATIONS	1 9	0.7357
0.630	0.630	0.630	0.630	STD Deviation	0.43379	0.63
0.654	0.654	0.654	0.654	AVERAGE	0.94065	0.6539
0.670	0.670	0.670	0.670	UCL	1.37444	0.6704
0.697	0.697	0.697	0.697	LCL	0.50686	0.6968
0.642	0.642	0.642	0.642			0.6423
0.647	0.647	0.647	0.647		•	0.647
0.807	0.807	0.807	0.807	OBSERVATIONS	16	0.8073
0.663	0.663	0.663	0.663	STD Deviation	0.39509	0.6627
0.704	0.704	0.704	0.704	AVERAGE	0.78533	0.7044
0.690	0.690	0.690	0.690	UCL	1.18042	0.6901
1.564				LCL	0.39024	ABOVE
1.190	1.190					1.1901
2.241						ABOVE
1.502				OBSERVATIONS	14	ABOVE
1,223	1.223			STD Deviation	0.34419	1.2234
1.118	1.118	1.118		AVERAGE	0.72513	1.1184
0.772	0.772	0.772	0.772	UCL	1.06932	0.7723
0.721	0.721	0.721	0.721	LCL	0.38093	0.7205
						BELOW
						BELOW
				OBSERVATIONS	13	BELOW
				STD Deviation	0.05512	BELOW
				AVERAGE	(0.69488)	BELOW
					Reading the second section of the section	BELOW
						BELOW
					i dil	BELOW
					06/19/16	BELOW
					. 1	BELOW
			•		11111	BELOW

Fusion Report - 061116B Saturday, June 11, 2016 02:10 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History) Printed on 2016/06/13 09:02 -Monday

Report Summary Information

Company Location:

Gen Chem Lab

Schedule Name:

061116B

Engine

1.1.5.1

Instrument Name:

Fusion1

Version:

Firmware Version:

1.2.0696

Report Version:

1 of 1

Connection: RS232 COM1

Report Creation by Operators (schedule Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4)

version):

Fusion1 (Fusion1) (v5)

Fusion1 (Fusion1) (v7)

Comment:

06/15/16 Augul

Report Results

		nalysis Type	Sample IE)	Start	Time
(clean)	O COMMONDE I STATE DE LA SERVICIO D La Companya de la Companya del Companya de la Companya de la Companya de la Companya de la Companya del Companya de la Companya del Companya de la Companya de la Companya del Companya de la Companya de la Companya de la Companya de la Companya del Companya del Companya de la Companya de la Companya de la Companya del Co	Clean	to to the first to the first to the first value for excess or property and a property to the property of the p	2016/06/	′11 14:10
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	11.48	16.68	5.20	49.56	05:19
2	TC Clean	7.34	9,33	2.00	50.14	03:59
3	TC Clean	2.56	4.81	2.26	51.09	03:47
4	TC Clean	2.75	4,75	2.00	50.56	03:43

	Pos Ai	nalysis Type	Sample IE	Start	Time	
(clean)		Clean		2016/06/	11 14:32
Rep #	Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.75	2.78	2.03	48,77	05:09
2	TC Clean	5.16	7.06	1.90	50.49	03:58
3	TC Clean	3.51	5.73	2.22	50.52	03:51

- 3							
i	4 TC Cloop	2.65	4.72	2.07	50.45	02:47	
1	4 TO Clean	2.00	4.12	2.07	00.10	U3.47	1
- 3	1			i'	;		

	Pos Ar	nalysis Type	Sample ID St			Time
(c)	dean)	EST 10 10 10 10 10 10 10 10 10 10 10 10 10	Clean		2016/06/	11 14:53
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	,	Pressure (psig)	Run Time
1	IC Clean	0.79	2.81	2.02	48.89	05:18
2	TC Clean	5.35	7.49	2.14	50.71	03:59
3	TC Clean	3.41	5.66	2.25	50.87	03:41
4	TC Clean	3.00	4.99	1.99	51.06	03:41

	POS	nalysis Type	Sample ID	Start	Start Time		
• (olank)		Reagent/Acid I	3lank	2016/06/	11 15:15	
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time	
1	IC Clean	0.72	2.89	2.17	48.63	05:07	
2	TC Clean	5.68	8.33	2.65	50.43	04:05	
3	TC Clean	2.86	5.83	2.98	50.46	03:49	
4	TC Clean	3.16	5.62	2.46	50.56	03:50	
5	Reagent Blank	4.22	6.61	2.39	. 50.66	05:00	
6	Acid Blank	0.50	2.77	2.27	48.73	05:27	

a	mple	e Type:	Check Standard -	> C(CB						From	Schedule V	ersion
	Pos	s BAT	Concentration (ppm)	Dil	Sample ID	Min / I (% de		Result		Std. Dev	. RSD	Start Ti	me
•	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infi (NA /		1.105 pp: (PAS:	m	0.000 pp	-	2016/06/11	15:48
P	os /	Base Analysis Type	s ID	Re _l #	ppm	μg	Adjı	usted	ľ	NDIR	Baseline	Pressure	Run Time
])	TOC	mag 0	1	1.1058	11.0584	an and to the second and the sec	16.32		18.28	1.96	53.84	10:31

<u>Completion State</u> <u>Success Action</u> <u>Method</u> <u>Calibration</u> <u>STD Conc - Pos D</u>

Do Nothing

Success - Criteria

0 ppmC

(v3)met. (v14)Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7 Min / Max Concentration BAT Dil Pos Sample ID Result Std. Dev. RSD Start Time (% dev) (ppm) TOC 25.0000 1:2 [TOC] CCV 25 0 / infinity В 25.1041 0.0000 0% 2016/06/11 16:03 ppm [25 ppm] (NA/NA)ppm ppm (PASS) Base Rep Run Pos ID **Analysis** Adjusted **NDIR** Baseline Pressure ppm μg Time Type В TOC 1 25.1041 251.0406 25 ppm 193.08 195.51 2.43 53.82 10:33 Success Action **Completion State** Calibration STD Conc - Pos B Method Success - Criteria Do Nothing CAS_salt_010711 CAS_salt_010711 50 ppmC met. (v3)(v14)

CAS_salt_010711

CAS salt 010711

	Pos	BAT	Concentration	Dil	Sample ID	Min /		Result	Std. Dev	r. RSD	Start Ti	me
•	D	TOC	(ppm) 0.0000	1:1	[TOC] CCB [0 / inf	~~~~~	0.735	7 0.000	00 0%	2016/06/11	16:17
					ppm]	(NA /	NA)	ppr (PASS		m		
Ρ	(Base nalysis Type	i ID	Re #	p ppm	hā	Adj	justed	NDIR	Baseline	Pressure	Run Time
	D	TOC	0 ppm	1	0.7357	7.3574	And St. S. San St. Comp. Sa. St. Street	13,59	15.66	2.06	53.88	10:28
	<u> </u>	pletion	State Succ	ess	Action	Method	1	Са	llibration	STD	Conc - Pos	s D
	Com											

ımpl	<u>e Type</u> : Sample						From :	Schedule V	ersion
Po	s Analysis Type	Sample ID	Result (p	nm(:)	d. Dev. pmC)	RSD		Start Time	
1	TOC	MB1	0.630	00 ppm 0	.0000 ppm	0.0000	% 20	16/06/11 16	32
Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6300	6.3002	12.28		14.66	2.39	53.83	10:34
	<u>Dilution</u>	Blank Contribution	Me	ethod	Calibra	ıtion_			
	1:10	(TC) 7.6366 (IC) (v875)		alt_010711 v3)	CAS_salt_ (v14	н			

Sample Type: Check Standard> LCS	A THE STATE OF THE	V 00000 000 000 000 000 000 000 000 000	PATRICINAL ILANGUATAN COMMON AND PERTURA AND STATEMENT AND	eller A. Verder der der der verder V. v. Verde V. A. V. Person V. V. Arrech V. A. V.	From	Schedule Version 7	<i>r</i>
Pos BAT Concentration Dil	Sample ID	Min / Max	Result	Std. Dev.	RSD	Start Time	

Anterities was reserved as meaning their contests	•	2 TOC	(ppm) 24.0000	1:1	[TOC] LCS [24 ppm]	(% de .0 0 / infi (NA /	nity	25.3 P (PA	pm pr	00 0%	2016/06/11	16:46
Francisco Paragraphic Spirit American	Pos	Base Analysis Type	ID	Rep #	ppm	hā	Ad	justed	NDIR	Baseline	Pressure	Run Time
	2	TOC	24.0 ppm	1	25.3241	253.2414	- dec d'acces de als accessions	194.70	196.79	2.10	53.96	10:28

Completion State
Success - Criteria
met.Success Action
Do NothingMethod
CAS_salt_010711
(v3)Calibration
CAS_salt_010711
(v14)STD Conc - Pos 2
24 ppmC

Sample	<u>e Type</u> : Sample						From	Schedule V	ersion ⁻
Pos	Analysis	Sample ID	Result (p		Std. D	- : RSI		Start Time	
	TOC	ICS	1.15	07 ppm	0.000	0.000 ppm	0% 201	16/06/11 17	7:01
Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)		NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC 1.1507		11.5069	11.5069 16.1		18.38	2.27	53.89	10:30

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC)
 CAS_salt_010711
 CAS_salt_010711

 (v875)
 (v3)
 (v14)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
* 4	TOC	K1605511-005.03 doc	1,6016 ppm	0.0027 ppm	0.1700%	2016/06/11 17:15

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5997	15,9967	19.42	21. 44	2.02	53.88	10:27
2	TOC	1.6035	16,0347	19.45	21.64	2.19	53.89	10:28

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v875)
 CAS_salt_010711 (v14)

A A Same Samb A Sam Sam Sa Sans	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
٠	5	TOC	K1605511-006.03 doc	1.1379 ppm	0.0187 ppm	1.6500%	2016/06/11 17:43	

***************************************	Rep #	Base Analysis Type	ppm	þg	Ad justed (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
- CO. 200 Common	1	TOC	1,1246	11.2462	15.92	17.99	2.07	53.91	10:27
	2	TOC	1.1511	11.5109	16.12	17.93	1.81	54.03	10:29

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	6	TOC	K1605511-007.13 doc	3.6792 ppm	0.0369 ppm	1.0000%	2016/06/11 18:10
Parameter Comments		en ann ann ann ann an Ann ann an Ann ann a		\$1.000 to \$1.000		············	

	is Type	1	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1 T(OC 3.705	37.0530	34.93	36.95	2.02	53.94	10:26
2 T(OC 3.653	2 36.5316	34.54	36.61	2.07	53.89	10:26

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v14)
 CAS_salt_010711 (v14)

No. of the second second	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	7	TOC	K1605511-007.13 ms doc	30.4428 ppm	0.0000 ppm	0.0000%	2016/06/11 18:38

₹ep #	Base Analysis Type	ppm	þд	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time	
1	TOC	30.4428	304.4277	231.86	234.02	2.16		10:31	

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v14)
 CAS_salt_010711 (v14)

Annual State of State	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	8	TOC	K1605511-008.03 doc	1.1368 ppm	0.1045 ppm	9.1900%	2016/06/11 18:52

Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2107	12.1070	16.55	18.51	1.96	53.93	10:24
2	TOC	1.0630	10.6298	15.47	18.00	2,54	53.91	10:25

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

Construction of the Constr	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	9	TOC	K1605511-009.03 doc	1.6914 ppm	0.0671 ppm	3.9700%	2016/06/11 19:20

Secure Section	Rep #	Base Analysis Type	ppm	þg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	1.7388	17.3883	20.44	22.52	2.08	53.91	10:28
A	2	TOC	1.6439	16.4393	19.74	22.11	2.36	53.98	10:27

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	10	TOC	K1605511-010.03 doc	3.4718 ppm	0.0221 ppm	0.6400%	2016/06/11 19:48

Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Tìme
1	TOC	3.4562	34.5616	33.09	35.22	2.12	54.01	10:26
2	TOC	3.4874	34.8739	33.32	35.30	1.98	53.97	10:26

DilutionBlank ContributionMethodCalibration1:10(TC) 7.6366 (IC)CAS_salt_010711CAS_salt_010711

(v875) (v3) (v14)

Sample Type: Check	Standard>	CCV 2	5 ppm
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From Schedule Version 7

Fat i the width well where we		Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
	•	В	TOC	25,0000	1:2	[TOC] CCV 25	0 / infinity	24.9679	0.0000	0%	2016/06/11 20:16
	The second second	A COURT OF THE PARTY OF THE PAR	٠.		2	ppm [25 ppm]	(NA/NA)	ppm (PASS)	ppm		

Pos	Base Analysis Type	ID	Rep #	ppm	hâ	Adjusted	NDIR	Baseline	Pressure	Run Time	
В	TOC	25 ppm	1	24.9679	249.6789	192.07	194.04	1.97	53.99	10:29	

Completion State

Success Action
Do Nothing

<u>Method</u>

Calibration

STD Conc - Pos B

Success - Criteria met.

CAS_salt_010711 (v3) CAS_salt_010711 (v14) 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.6539 ppm (PASS)	0.0000 ppm	0%	2016/06/11 20:30

Pos	Base Analysis Type	ID	Rep #	ppm	μд	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	mag 0	1	0.6539	6.5387	12.99	15.51	2.52	54.00	10:32

Completion State
Success - Criteria

Success Action

<u>Method</u>

Calibration
CAS salt 01071

STD Conc - Pos D

0 ppmC

From Schedule Version 7

Start Time

54.05 10:28

met.

Sample Type: Sample

Pos

2

Analysis

Do Nothing CAS

CAS_salt_010711 (v3)

CAS_salt_010711 (v14)

RSD

Std. Dev.

18.76

(ppmC) Type TOC 0.0620 ppm 3.9900% 2016/06/11 20:45 11 K1605511-011.03 doc 1.5545 ppm Rep Adjusted Baseline Pressure Run Base NDIR (Abs) ppm μg Analysis Type (Abs) (Abs) (psig) Time 1 1.5983 15.9831 19.41 21.48 2.07 54.03 10:30 TOC

Result (ppmC)

Dilution 1:10

TOC

Blank Contribution

1.5106

Sample ID

Method CAS_salt_010711

15.1061

Calibration

20.88

2,11

(TC) 7.6366 (IC) CA (v875)

(v3)

CAS_salt_010711 (v14)

 Pos
 Analysis Type
 Sample ID
 Result (ppmC)
 Std. Dev. (ppmC)
 RSD
 Start Time

 * 12
 TOC
 K1605512-001.03 doc
 3.1477 ppm
 0.0555 ppm
 1.7600%
 2016/06/11 21:13

# /	Base Analysis Type	ppm	μg	Adjusted (Abs)	d .	NDIR (A	vps)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1869	31.8693	3:	1.11	~444Y6304/34664411W-20-1	32.88	1.77	54.07	10:2
2	TOC	3.1085	31.0846	30	0.53	~~~	32.44	1.90	54.09	10:2
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)		<u>lethod</u> salt_010711 (v 3)	CA	Calibra S_salt_ (v14	01071	1		
Pos	Analysis Type	Sample ID	Result (Result (ppmC) Sto		ev. C)	RSC)	Start Time	
13	тос	K1605512-001.03 doc	3 ms 29.63	314 ppm	0.000)0 ppm	0.0000)% 20	16/06/11 21	:41
Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	j	NDIR (A	.bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
1	TOC	29.6314	296.3142	225	5.89	2	27.95	2.06	54.10	10:2
	Dilution 1:10	Blank Contrib (TC) 7.6366 (v875)		<u>lethod</u> salt_010711 (v3)	CA	Calibra S_salt_ (v14	01071	1		
Pos	Analysis Type	Sample ID	Result (ppmC)	Std. De		RSD		Start Time	
♦ 14	TOC	K1605512-002.03	3 doc 1.89	35 ppm	War.berarana waawaa	9 ppm	7.4400)% 201	16/06/11 21	:55
Rep ##	Base Analysis Type	ppm	μg	Adjusted (Abs)	1	NDIR (A	.bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
1	TOC	1.9931	19.9313	22	2.32	adad a a dad af ad dan adaa ada aay aay aay a	24.53	2.21	54.11	10:2
2	TOC	1.7938	17.9382	20).85		22.96	2.11	54.12	10:2
named by over some one does named	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 ((v875)		l <u>ethod</u> :alt_010711 (v 3)		Calibra S_salt_(v14	010711	WARRING DW ARRING BOOK AND		
Pos	lype	Sample ID	Result (ppmC)	Std. De	C)	RSD		Start Time	
♦ 15	TOC	K1605512-003.03	3 doc 1.46	88 ppm	0.052	6 ppm	3.5800	1% 201	16/06/11 22	:23
Rep #/	Base Analysis Type	ppm	ħā	Adjusted (Abs)	1	VDIR (A	bs)	Baseline (Abs)	Pressure (psig)	Rur Time
1	TOC	1.5060	15.0599	had the total and control annual new transcenses are an area.	3.73	***************************************	20.62	1.89	54.15	10:2
2	TOC	1.4316	14.3159	18	3.18	incompanies (construint de la Marie de la	20.16	1.98	54.17	10:2
	<u>Dilution</u> 1:10	Blank Contribe (TC) 7.6366 (v875)	(IC) CAS_s	ethod alt_010711 (v3)		Calibra S_salt_(v14	010711			
Pos	rype	Sample ID	Result (Std. De (ppm0		RSD	o mendian non reformative (Natherine) (Natherine) by a restriction of the second of th	Start Time	
16	TOC	K1605512-004.03	3 doc 1.45	526 ppm	0,009	2 ppm	0.6300	1% 201	16/06/11 22	:50
. Na dament anna anna an gradeur	Base	ppm	hа	Adjusted (Abs)	J P	VDIR (A	bs)	Baseline (Abs)	Pressure (psig)	Run Time
Rep # #	Analysis Type			**************************************	and the second		Actual contract contract			
	TOC TOC	1.4461	14.4612	18	.29	4	20.11	1.82	54.19	10:2

(v875)

(v3)

(v14)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
₽ 17	TOC	K1605512-005.03 doc	3.2535 ppm	0.0181 ppm	0.5600%	2016/06/11 23:18

Rep #	Base Analysis Type	ppm	hã	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2407	32.4070	31.51	33.33	1.83	54.24	10:29
2	TOC	3.2664	32.6636	31.70	33.40	1.70	54.26	10:27

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC) (v875)

<u>Method</u> CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

24-A-1-40	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	18	TOC	K1605512-006.03 doc	1.2769 ppm	0.0281 ppm	2.2000%	2016/06/11 23:46

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2570	12.5699	16.90	19.02	2.13	54.29	10:27
2	TOC	1.2968	12.9677	17.19	18.83	1.64	54.30	10:25

<u>Dilution</u> 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) Method CAS_salt_010711 (v3) <u>Calibration</u> CAS_salt_010711 (v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
Andreas de la des	♦ 19	TOC	K1605512-007.03 d o c	3.7245 ppm	0.0708 ppm	1.9000%	2016/06/12 00:13

Rep #	Base Analysis Type	ppm	hã	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.7745	37.7454	35.44	37.30	1.86	54.33	10:25
2	TOC	3,6745	36.7448	34.70	36.56	1.86	54.35	10:22

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Pos Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆ 20 TOC	K1605698-001.02 doc	2.8908 ppm	0.0748 ppm	2.5900%	2016/06/12 00:41

Service Constitute Constitute	Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
distance.	1	TOC	2.9436	29.4364	29.32	31.11	1.79	54.38	10:28
5	2	TOC	2.8379	28.3788	28.54	30.04	1.50	54.38	10:22

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC)

(v875)

<u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Sample	Sample Type: Check Standard> CCV 25 ppm From Schedule Version 7											
Pos	ват	Concentration Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time				

◆ E	B TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]			24.230 ppi (PASS	n pr	00 0% om	2016/06/12	. 01:09
Pos	Base Analysis Type	ID	Rep #	ppm	μg	Adju	ısted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.2301	242.3013	tita oo waatii ta kaasiid da oo	186.64	188.07	1.43	54.42	10:32
	mpletion S ccess - Crit met.		cess A o Noth	Action ning CA	Method AS_salt_010 (v3)	0711	********	alibration salt_01071 (v14)		Conc - Pos 50 ppmC	s B

	Pos	BAT	Concentration	Dil	Sample ID	Min / (% d		Result	Std. De	v. RSD	Start T	ime
	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / inf (NA /	inity	0.670 pp (PAS:	m pr	00 0% om	2016/06/12	2 01:23
Po	os A	Base nalysis Type	lD	Rep #	ppm	μg	Adjı	usted	NDIR	Baselin	e Pressure	Run Time
)	TOC	0 ppm	1	0.6704	6.7044	Tella Cambuddicab	13.11	14.83	1.7	2 54.44	10:33
	***************************************	pletion ess - Ci met.		ess A Noth	Action ling CA	Method S_salt_01 (v3)	-		alibration _salt_01071 ⁻ _v14)		D Conc - Po 0 ppmC	s D

amp	e Type: Sample						From	Schedule V	'ersion
Po	s Analysis Type	Sample ID	Result (ppmC)		Std. Dev. (ppmC)			Start Time	
♦ 2 1	TOC	MB2	0.696	88 ppm (0.0000 ppm	0.0000)% 20	16/06/12 01	:38
Rep #	Base Analysis Type	ppm	ha	Adjusted (Abs)	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6968	6.9681	12.7	7	13.97	1.20	54.45	10:30
	Dilution	Blank Contribution	<u>Me</u>	ethod	Calibra	ation			
	1:10	(TC) 7.6366 (IC) (v875)		ult_010711 v3)	CAS_salt_ (v1		1		

Saı	mpl	<u>e Type</u> :	Check Stan d ard -	> LC	CS						From S	Schedule V	ersion
	Ро	s BAT	Concentration (ppm)	Dil	Sample ID	Min / I (% de	;	Result	Std. De		RSD	Start Ti	
•	2	TOC	24.0000	1:1	[TOC] LCS [24 ppm]	.0 0 / infi (NA / l	•	24.781 ppi (PAS:	n p	00 om	0%	2016/06/12	. 01:52
Р	os	Base Analysis Type	i ID	Rep	ppm	hā	Adj	usted	NDIR	Ва	seline	Pressure	Run Time
-	2	TOC	24.0 p p m	1	24.7811	247.8107		190.70	192.57		1.87	54.48	10:29

	mpletion State ccess - Criteria met.	Success Ac Do Nothin		_	lethod salt_0107 (v3)	7 1 1	<u>Calibı</u> CAS_salt (v1	_01071	_	STD	Conc - Po 24 ppmC	<u>s 2</u>
Samp	i <mark>le Type</mark> : Sample	• · · · · · · · · · · · · · · · · · · ·	a de la composition	enertulestendentertenertenpii	nasha dahada da dasha da da saban ay da da	deligia (13 seine in 13 merenes) mesenes kel	annan ar s sussian s su anuan ar an ann an ann a		Fro	m :	Schedule V	ersion
Po	Analysis Type	Sample ID	j	Result (ppmC)	6	. Dev. omC)	RSI	D		Start Time	
2	2 T OC	K1605698-001 ms/msd dod	1	28.61	114 ppm	0.	3233 ppm	1.130	0%	20	16/06/12 02	:06
Rep #	Base Analysis Type	ppm	þд)	Adju (Al		NDIR (Abs)	Baseli (Abs		Pressure (psig)	Run Time
1	TOC	28.8400	28	8.4003		220.06		221.79	1.	73	54.41	10:28
2	TOC	28.3828	28	3.8277		216.69		218.42	1.	73	54.46	10:26
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)		Method CAS_salt_01071 (v3)		711	<u>Calibra</u> 11 CAS_salt_ (v14		1			
Po	Analysis Type	Sample ID	F	Result (ppmC)	}	. Dev. omC)	RSI	D	***********	Start Time	5700 4 14 15 17 18 18 18 18 18 18 18 18 18 18 18 18 18
⋄ 2	3 TOC	K1605749-001.0	2 doc	3.08	333 ppm	0.	1998 p p m	6.480	0%	20	16/06/12 02	:34
Rep #	Base Analysis Type	ppm	μg	***************************************	Adju (Al		NDIR (Abs)	Baseli (Abs	_	Pressure (psig)	Run Time
1	TOC	3.2245	3	2.2454	***************************************	31.39	delicita e de comerca a a comerce e	32.89	1.	51	54.42	10:28
2	TOC	2.9420	2	9.4201		29.31	e (manus e e e e e e e e e e e e e e e e e e e	31.05	1.	74	54.49	10:28
Po	Dilution 1:10 Analysis	Blank Contrib (TC) 7.6366 (v875) Sample ID	(IC)	CAS	<u>lethod</u> salt_0107 (v3) (ppmC)	Std	Calibr CAS_salt (v1	_01071	dad teribilisete s s egative s v sevasous	recolonored	Start Time	ense sa a disseña a la casa en se a se a se a se a se a se a se
⋄ 2	Type 4 TOC	K1605749-001 ms/m sd doc	.02	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	934 ppm	-	omC) 0667 ppm	manan manan man	***************************************		16/06/12 03	na sasandanda aa maraa
Rep #	Base Analysis Type	ppm	μg	100 2 100 4. Ja-24.00 V 100 4.1 100 100 100 100 100 100 100 100 100 1	Adju (Al		NDIR (Abs)	Baseli (Abs		Pressure (psig)	Run Time
1	TOC	28.6406	28	6.4059	and the same and	218.59		220.04	1.	45	54.46	10:28
2	TOC	28.5462	28	5.4623	4	217.89		219.48	1.	59	54.39	10:23
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)			<u>lethod</u> salt_0107 (v 3)	711	<u>Calibr</u> CAS_salt (v1	_01071	1			
Po	Analysis Type	Sample ID	R	Result (ppmC)		Dev. mC)	RSE)	************	Start Time	gy ja v a kylonkatti yka i tyyst (yyst (
2		K1605750-001.03	3 doc	1.13	19 ppm	~~********************	357 ppm	11.980	0%	20	16/06/12 03	:30
Rep #	Base Analysis Type	ppm	μg	************************	Adju	sted bs)	NDIR (Abs)	Baseli (Abs		Pressure (psig)	Run Time
1	TOC	1.2278	1	2.2780		16.68		18.70	<u> </u>	, 02	54.41	10:22
2	TOC	1.0360		0.3596	to accompliance to accompliant or to	15.27		17.31		05	54.47	10:25
n og s _{er} enege open _g enegene av	Dilution 1:10	Blank Contrib (TC) 7.6366			<mark>fethod</mark> salt_0107	711	<u>Calibr</u> CAS_salt		1	***************************************		anterior de la compania

about:blank

		(v875)		(v3)		(v14	·)			
Po	s Analysis Type	Sample ID	Result ((ppmC)		Dev. mC)	RSE)	Start Time	
♦ 2 6		K1605750-001.03 doc	3 ms 26.59	951 ppm	0.0	0000 ppm	0.000)% 20′	16/06/12 03	:57
Rep #	Base Analysis Type	ppm	hā	Adjus (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.5951	265.9511	2	203.52	2	05.47	1.95	54.46	10:34
	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6366 ((v875)		<u>flethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v1²	01071	1		
Po	s Analysis Type	Sample ID	Result	(ppmC)		. Dev. omC)	RSE)	Start Time	
⋄ 27	TOC	K1605750-002.03	doc 10.4	605 ppm	0.′	1717 ppm	1.6400)% 20°	16/06/12 04	:12
Rep #	Base Analysis Type	ppm	pg	Adjus (Ab		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.5819	105.8195		85.58	anathan steoath meet them	87.08	1.50	54.47	10:2
2	TOC	10.3391	103.3906		83.79	Control on Visitation IV. PRINTED IN LINE IN THE INC.	85.35	1.56	54.48	10:28
	1:10 Analysis	(TC) 7.6366 ((v875)		salt_0107 (v3)	MANUAL TANDAMAN INDIGATION OF THE PROPERTY OF	CAS_salt_ (v1 ² . Dev.			Start Time	HARRY HARRISTON VA. VA.
Po	Type	Sample ID	Result	***************************************	***********************	omC)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		enter recorder America va refut president i se	~2 = ~ 4 4 mm m 4 mm mm
♦ 28	TOC	K1605750-003,03	3 doc 10.2	000 ppm	0.0	0100 ppm	0.1000)% 20	16/06/12 04	:39
Rep #	Base Analysis Type	ppm	ħâ	Adjus (Ab	s)	NDIR (A	\bs)	Baseline (Abs)	(psig)	Run Time
1	TOC	10.1930	101.9297		82.71	poemien a ven imen ven novembre (Albertan a Novalle)	84.47	1.76	54.42	10:2
2	TOC	10.2071	102.0709		82.82		84.26	1.45	54.39	10:26
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)		Method salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Ро	s Analysis Type	Sample ID	Result	(ppmC)		. Dev. omC)	RSE) defendable	Start Time	,
♦ 2 9	TOC	K1605750-004.03	3 doc 10.2	670 ppm	0.0	0360 ppm	0.3500	0% 20	16/06/12 05	5:07
Rep	Base Analysis Type	ppm	hā	Adju: (Ab		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
#			400 4450		83.07		84.64	1.57	54,38	10:2
# 1	TOC	10.2416	102,4158 102,9249		83.45		85.09	1.65	54.38	10:2

5	Sample Type: Check Standard> CCV 25 ppm From Schedule Version 7												
Pos BAT Concentration (ppm) Dil Sample ID Min / Max (% dev) Result Std. Dev. RSD Start Time											Service of the servic		
100								}		\$	1		

(v3)

 $(v1\overline{4})$

(v875)

en fedigir editoria e for en en	3 TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]			m pp		2016/06/12	05:35
Pos	Base Analysis Type	ID	Rep #	ppm	þд	Adjusted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.2819	242.8185	187.02	188.59	1.56	54.37	10:32
	mpletion States access - Crite met.		cess A o Nothi		Method AS_salt_010 (v3)		alibration _salt_010711 (v14)	***************************************	Conc - Pos 50 ppmC	s B

s BAT	Concentration	,						1 10111	Schedule V	CISIOII
Ì	(ppm)	Dil	Sample ID	Min / (% d		Result	Std. Dev	ı. RSD	Start Ti	me
) TOC	0.0000	1:1	[TOC] CCB [0 ppm]	\$			n pp	!	2016/06/12	2 05:49
Base Analysis Type	i ID	Rep	ppm	μg	Adjı	usted	NDIR	Baseline	Pressure	Run Time
TOC	0 ppm	1	0.6423	6.4233		12.90	14.83	1.92	54.43	10:32
mpletion	State Succ	cess A	Action	Method	<u> </u>	Ca	libration	STD	Conc - Po	s D
	Base Analysis Type TOC	Base Analysis ID Type TOC 0 ppm mpletion State Succ	Base Analysis ID Rep # Type TOC 0 ppm 1 mpletion State Success A	Base Analysis ID Rep ppm Type TOC 0 ppm 1 0.6423 mpletion State Success Action	Base Analysis Type ID Rep # ppm μg TOC 0 ppm 1 0.6423 6.4233 mpletion State Success Action Method	Base Analysis ID Rep ppm μg Adjusted Adjusted Adjusted Analysis TOC O ppm 1 0.6423 6.4233 Toc O ppm 1 O.6423 O.64			Base Analysis Type ID Rep # ppm μg Adjusted NDIR Baseline TOC 0 ppm 1 0.6423 6.4233 12.90 14.83 1.92 mpletion State Success Action Method Calibration STD	Base Analysis Type ID Rep # ppm μg Adjusted NDIR Baseline Pressure TOC 0 ppm 1 0.6423 6.4233 12.90 14.83 1.92 54.43 mpletion State Success Action Method Calibration STD Conc - Position

	Completion State Success - Criteria met. Success Action Do Nothing					ethod alt_0101 (v3)	711	<u>Calibr</u> CAS_salt (v1	_01071		STD Conc - Pos D 0 ppmC	
San	nple	Type: Sample				3	***************************************	Marilli e de la	<u>, , , , , , , , , , , , , , , , , , , </u>	From	Schedule V	'ersion ⁻
YA FINANCIA	Pos	Analysis Type	Sample ID		Result (ppmC)		. Dev. omC)	RSI)	Start Time	ena ma u usheni dabibushuda da
•	30	TOC	K1605750-005.0 2x	3 doc	7.71	70 ppm	0,1	0657 ppm	0.850	0% 20	016/06/12 06	3:04
Re		Base nalysis Type	ppm	rements e reminer en membre e	hā		ısted bs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	7.7634	and the second s	77.6340		64.82		66.72	1.90	54,38	10:26
2	2	TOC	7.6705	-STANSA V.C. Turner, commun.	76.7054	Name and the state of the state	64.13	San Carrier Marie Ma	66.01	1.88	54.40	10:27
	<u>[</u>	<u>Dilution</u> 1:10	<u>Blank Contrib</u> (TC) 7.6366 (v 875)		CAS_s	l <u>ethod</u> alt_0101 (v3)	711	<u>Calibr</u> CAS_salt (v1	_01071	1		
	Pos	Analysis Type	Sample ID	onere ere er eneres e service de	Result (p	opmC)		Dev. mC)	RSD)	Start Time	•
•	31	TOC	RB		0.72	72 ppm	0.1	134 p pm	15.590	0% 20	016/06/12 06	3:32
Re		Base nalysis Type	ppm	v 2 mail 16 1 16 16 16 16 16 16 16 16 16 16 16 1	µg		ısted bs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	0.6470		6.4699	and the state of t	12.40	***************************************	14.43	2.02	2 54.37	10:24
~~~~~		anni de la descrita de la descrita de esperante de esperante de la composição de la composi	angenous and an area of an area of an area of a decided and are a second and a decided at the area of a decided at the ar					1			- 4 40	10.00

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6470	6.4699	12.40	14.43	2.02	54.37	10:24
2	TOC	0.8073	8.0733	13.58	15.34	1.76	54.40	10:26
N.L	Dilution	Plank Contribution	. NA.	athad	Calibration			

<u>Dilution</u> Blank Contribution <u>Method</u> <u>Calibration</u> CAS_salt_010711 CAS_salt_010711 1:10 (TC) 7.6366 (IC)

p.m			(v875)			(v3)		(v14	ł)			
e de como a	Po	s Analysis Type	Sample (D		Result (	ppmC)		. Dev. omC)	RSI	)	Start Time	•
•	32	2 TOC	K1605782-001.02	2 doc	2.44	16 ppm	0.0	0293 ppm	1.200	0% 20	16/06/12 06	3:59
	ep #	Base Analysis Type	ppm	h	ıg	Adju (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
	1	TOC	2.4623		24.6234	delegia mass tellimotre de delegia (1995)	25.7 <b>7</b>		27.79	2.01	54.38	10:2
	2	TOC	2.4209	i in the factor of the section of the section of the sec	24.2093	······································	25.47		27.23	1.76	54.35	10:2
		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)	***************************************	CAS_s	<u>ethod</u> alt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
.,	Ро	Analysis Type	Sample ID		Result ( _I	ppmC)		Dev.	RSI	)	Start Time	,
٠	33	3 TOC	K1605782-001. ms/msd doc	.02	27.95	35 ppm	0.2	2444 ppm	0.870	0% 20	16/06/12 07	7:27
	ep #	Base Analysis Type	ppm	μ	ıg	Adju: (Ab		NDIR (A	.bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
-	1	TOC	28.1263	28	81.2630		214.80	2	16.52	1.72	54.41	10:2
2	2	TOC	27.7806	2	77.8063	·	212.26	2	14.51	2.26	54.38	10:2
		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366		_	<u>ethod</u> alt_0107	11	<u>Calibra</u> _CAS_salt_		1		
PRI 1 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Po	1:10		(IC)	CAS_s	alt_0107 (v3)	Std.	CAS_salt_ (v14 Dev.	01071	h far hellisedad farilisedas helles farilises farilises se	Start Time	
<ul> <li>→</li> </ul>	Po 34	1:10 s Analysis Type	(TC) 7.6366 ( <b>v</b> 875)	(IC)	CAS_s	alt_0107 (v3)	Std. (pp	CAS_salt_ (v14	01071 ) RSE		Start Time 16/06/12 07	······································
Re	34 ep	1:10 s Analysis Type	(TC) 7.6366 (v875) Sample ID	(IC)	CAS_s	alt_0107 (v3) ppmC)	Std. (pp 0.1	CAS_salt_ (v14 Dev. omC)	01071 ) RSE 8.7200		16/06/12 07	':55 Rui
Re #	34 ep	1:10  s Analysis Type TOC  Base	(TC) 7.6366 (v875) Sample ID K1605782-002.02	(IC)	CAS_s	alt_0107 (v3) ppmC) 27 ppm	Std. (pp 0.1	CAS_salt_ (v14 Dev. nmC) 1991 ppm	01071 ) RSE 8.7200	)% 20 Baseline	16/06/12 07	7:55 Rur Tim
Re #	34 ep #	1:10  s Analysis Type TOC  Base Analysis Type	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02	(IC)	CAS_s  Result (p	alt_0107 (v3) ppmC) 27 ppm	Std. (pp 0.1 sted	CAS_salt_ (v14 Dev. omC) 1991 ppm	01071 ) RSE 8.7200	) 20 Baseline (Abs)	16/06/12 07 Pressure (psig)	7:55 Rur Tim 10:2
‡ 1	34 ep #	1:10  s Analysis Type TOC  Base Analysis Type TOC	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235	(IC)  2 doc  µ  ution	CAS_s  Result (  2.28  9  24.2351  21.4193	alt_0107 (v3) ppmC) 27 ppm	Std. (pp 0.1 sted ss) 25.49 23.41	CAS_salt_ (v14 Dev. omC) 1991 ppm	01071 ) RSE 8.7200 .bs) 27.06 25.46 tion 01071	Baseline (Abs) 1,58 2.05	16/06/12 07 Pressure (psig) 54.34	7:55 Rur Tim 10:2
Re #	34 ep #	t:10  s Analysis Type TOC TOC TOC Dilution 1:10	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (	(IC)  2 doc  µ  ution (IC)	CAS_s  Result (  2.28  9  24.2351  21.4193	alt_0107 (v3)  ppmC) 27 ppm Adjus (Ab  ethod alt_0107 (v3)	Std. (pp 0.1 sted (ss) 25.49 23.41	CAS_salt_(v14 Dev. omC) 1991 ppm NDIR (A Calibra CAS_salt_(	01071 ) RSE 8.7200 .bs) 27.06 25.46 tion 01071	D) 20 20 Baseline (Abs) 1.58 2.05	16/06/12 07 Pressure (psig) 54.34	7:55 Rur Tim 10:2 10:2
Re # 1 2	34 ep # 11 2	t:10  s Analysis Type TOC TOC TOC Dilution 1:10  s Analysis Type	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)	(IC)  2 doc  pution (IC)	CAS_s  Result (p  2.28  24.2351  21.4193  M  CAS_s  Result (p	alt_0107 (v3)  ppmC) 27 ppm Adjus (Ab  ethod alt_0107 (v3)	Std. (pp 0.1 sted is) 25.49 23.41 11 (pp	CAS_salt_(v14 Dev. DEV. DIPORT (A Calibra CAS_salt_(v14 Dev.	01071 ) RSE 8.7200  bs)  27.06  25.46  tion  01071	D) 20 Baseline (Abs) 1.58 2.05	16/06/12 07  Pressure (psig)  54.34  54.34	7:55 Rui Tim 10:2 10:2
Re # 1 2 2	34 epp # 11 22 Po 35	T:10  s Analysis Type TOC TOC TOC  Dilution 1:10  s Analysis Type TOC TOC  Dilution TOC TOC  Base Type TOC TOC  Dilution TOC TOC	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)  Sample ID	(IC)  2 doc  pution (IC)	CAS_s  Result (p  2.28  9  24,2351  21,4193  M  CAS_s  Result (p  2.54	alt_0107 (v3)  ppmC)  Adjust (Ab)  ethod alt_0107 (v3)  ppmC)	Std. (pp 0.1 sted is) 25.49 23.41 11 (pp 0.0 sted	CAS_salt_(v14 Dev. DBY NDIR (A Calibra CAS_salt_(v14 Dev. DBY	01071 ) RSE 8.7200 bs) 27.06 25.46 01071 ) RSE	Baseline (Abs) 1.58 2.05	16/06/12 07  Pressure (psig)  54.34  54.34  Start Time	7:55 Rui Tim 10:22 10:22
Re #	34 ep # 1 1 2 Po 35 ep #	T:10  s Analysis Type TOC TOC TOC  Dilution 1:10  s Analysis Type T TOC  Base Analysis Type T TOC TOC  Dilution	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)  Sample ID  K1605862-001.02  ppm  2.5635	ution (IC)	CAS_s  Result (p  2.28  24.2351  21.4193  M  CAS_s  Result (p  2.54	alt_0107 (v3)  ppmC)  Adjus (Ab  ethod alt_0107 (v3)  ppmC)  Adjus Adjus	Std. (pp 0.1 sted is) 25.49 23.41 11 (pp 0.0 sted is) 26.52	CAS_salt_(v14 Dev. mC) 1991 ppm  NDIR (A  Calibra CAS_salt_(v14 Dev. mC) 0253 ppm  NDIR (A	01071 ) RSE 8.7200 .bs) 27.06 25.46 tion 01071 ) RSE 1.0000	Baseline (Abs) 1.58 2.05  1  Baseline (Abs) 2.03	16/06/12 07 Pressure (psig) 54.34 54.34  Start Time 16/06/12 08 Pressure (psig) 54.34	7:55 Rur Tim 10:2 10:2
Re #	34 ep # 1 1 2 Po 35 ep #	T:10  s Analysis Type TOC TOC TOC  Dilution 1:10  s Analysis Type TOC TOC  Dilution TOC TOC  Base Type TOC TOC  Dilution TOC TOC	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)  Sample ID  K1605862-001.02	ution (IC)	CAS_s  Result (p 2.28  9 24.2351 21.4193  Mark CAS_s  Result (p 2.54	alt_0107 (v3)  ppmC)  Adjus (Ab  ethod alt_0107 (v3)  ppmC)  Adjus Adjus	Std. (pp 0.1 sted s) 25.49 23.41 11 (pp 0.0 sted s)	CAS_salt_(v14 Dev. mC) 1991 ppm  NDIR (A  Calibra CAS_salt_(v14 Dev. mC) 0253 ppm  NDIR (A	01071 ) RSE 8.7200 bs) 27.06 25.46 101071 ) RSE 1.0000	Baseline (Abs) 1.58 2.05 1 Baseline (Abs)	16/06/12 07  Pressure (psig) 54.34 54.34  Start Time 16/06/12 08  Pressure (psig)	:222 Rur Tim 10:22 :222 Rur Tim 10:22
Re # 1	34 ep # 1 1 2 Po 35 ep #	T:10  s Analysis Type TOC TOC TOC  Dilution 1:10  s Analysis Type T TOC  Base Analysis Type T TOC TOC  Dilution	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)  Sample ID  K1605862-001.02  ppm  2.5635	ution  doc  ution	CAS_s  Result (p  2.28  24.2351  21.4193  M  CAS_s  Result (p  2.54  9  25.6349  25.2765	alt_0107 (v3)  ppmC)  Adjus (Ab  ethod alt_0107 (v3)  ppmC)  Adjus Adjus	Std. (pp 0.1 sted is) 25.49 23.41 11 (pp 0.0 sted is) 26.52 26.25	CAS_salt_(v14 Dev. mC) 1991 ppm  NDIR (A  Calibra CAS_salt_(v14 Dev. mC) 0253 ppm  NDIR (A	01071 RSE 8.7200  bs  27.06 25.46 tion 01071   RSE 1.0000  bs  28.54 28.23 tion 01071	Baseline (Abs) 2.05  1.58 2.05  1  Baseline (Abs) 2.03 1.97	16/06/12 07 Pressure (psig) 54.34 54.34  Start Time 16/06/12 08 Pressure (psig) 54.34	::55 Rur Tim 10:2 10:2
Re # 1 2 2	34 ep # 1 1 2 Po 35 ep #	T:10  s Analysis Type TOC TOC TOC  Dilution 1:10  s Analysis Type TOC TOC  Dilution 1:10  Base Analysis Type TOC TOC  Base Analysis Type TOC TOC  Dilution 1:10	(TC) 7.6366 (v875)  Sample ID  K1605782-002.02  ppm  2.4235 2.1419  Blank Contrib (TC) 7.6366 (v875)  Sample ID  K1605862-001.02  ppm  2.5635 2.5276  Blank Contrib (TC) 7.6366 (	ution (IC)	CAS_s  Result (p  2.28  24.2351  21.4193  M  CAS_s  Result (p  2.54  9  25.6349  25.2765	alt_0107 (v3)  ppmC) 27 ppm Adjus (Ab  ethod alt_0107 (v3)  56 ppm Adjus (Ab	Std. (pp 0.1 sted is) 25.49 23.41 11 (pp 0.0 sted is) 26.52 26.25	CAS_salt_(v14 Dev. DIR (A  Calibra CAS_salt_(v14  CAS_salt_(v14  Dev. DEV. DOZ53 ppm  NDIR (A  Calibra CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS_salt_(CAS	01071 RSE 8.7200  bs  27.06 25.46 tion 01071   RSE 1.0000  bs  28.54 28.23 tion 01071	Baseline (Abs) 1.58 2.05 1  Baseline (Abs) 1.58 2.05 1  1  20  Baseline (Abs) 2.03 1.97	16/06/12 07 Pressure (psig) 54.34 54.34  Start Time 16/06/12 08 Pressure (psig) 54.34	:55 Rui Tim 10:2 10:2 :22 Rui Tim 10:2

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.0625	280.6249	214.33	216.43	2.09	54.39	10:26
2	TOC	28.2769	282.7687	215.91	217.66	1.75	54.40	10:25

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

AND DESCRIPTION OF THE PERSON NAMED IN	Po	os Analysi Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
	<ul><li>3</li></ul>	7 TOC	K1605862-002.02 doc	2.5982 ppm	0.1883 ppm	7.2500%	2016/06/12 09:18

	Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
the the second	1	TOC	2.7313	27.3130	27. <b>7</b> 5	29.48	1.73	54.36	10:28
Savatoria to	2	TOC	2.4651	24.6506	25.79	27.83	2.04	54.35	10:24

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) Method CAS_salt_010711 (v3) <u>Calibration</u> CAS_salt_010711 (v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	38	TOC	K1605862-003.02 doc	0.7385 ppm	0.0488 ppm	6.6000%	2016/06/12 09:45

	Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
***************************************	1	TOC	0.7 <b>7</b> 30	7.7298	13.33	15.10	1.77	54.31	10:24
	2	TOC	0.7040	7.0401	12.82	14.65		54.30	

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

h beat we was but us	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
	<ul><li>39</li></ul>	TOC	K1605465-001.05	4.1556 ppm	0.0353 ppm	0.8500%	2016/06/12 10:13

3	ep #	Base Analysis Type	ppm	μġ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
200	1	TOC	4.1806	41.8062	38.43	40.34	1.91	54.28	10:28
	2	TOC	4.1307	41.3066	38.06	40.03	1.97	54.25	10:26

Dilution 1:10 Blank Contribution (TC) 7.6366 (IC)

(v875)

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7 Concentration Min / Max Dil **RSD** Pos BAT Sample ID Result Std. Dev. Start Time (% dev) (ppm) TOC 25.0000 1:2 [TOC] CCV 25 0 / infinity 24.1085 0.0000 0% 2016/06/12 10:41 В ppm [25 ppm] (NA/NA) ppm ppm (PASS)

in our new terms	Base					A _1*11	NDID	D1	D		S promote of
Pos	Analysis	łD	Rep	ppm	μg	Adjusted	NDIR	Baseline	Pressure	Run	

and and and and and		Туре		#	a company of the comp	dra fra paragraphic		* 44.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.			Time
	В	TOC	25 ppm	1	24.108	5 241.0848	185.74	187.67	1.93	54.21	10:32
	Con	npletion S	tate <u>Succ</u>	ess A	<u>Action</u>	Method		<u>Calibration</u>	STD	Conc - Pos	s B
	Suc	cess - Crit	eria Do	Noth	ning (	CAS_salt_01 (v3)	0711 CA	S_salt_010711 (v14)	1	50 ppmC	

* D	тос	0,0000	1:1					1			
	*************	\$\$\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarrow\rightarr		[TOC] CCB [0 ppm]	0 / inf ( NA /	,	0.662 ppi (PASS	m pp		2016/06/12	10:55
Pos Ar	Base nalysis Type	ID	Rep #	ppm	μд	Adju	ısted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6627	6.6270		13.05	15,00	1.95	54.17	10:30

1	Pos	Analysis Type	Sample ID	Result (p	nm(:)	Std. Dev. (ppmC)	RSE	)	Start Time	,
>	40	TOC	MB3	0.704	l4 ppm	0.0000 ppm	0.0000	)% 20	16/06/12 11	:10
₹	∋p ≠ Aı	Base nalysis Type	ppm	hâ	Adjusted (Abs)	NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	0.7044	7.0442	12	82	14.60	1.77	54,13	10:33
	<u></u>	Dilution	Blank Contribution	<u>Me</u>	thod	Calibra	ation_			
		1:10	(TC) 7.6366 (IC) (v875)		ilt_010711 v3)	CAS_salt_ (v1	-	I		

	Pos	ват	Concentration (ppm)	Dil	Sample ID	Min / N (% de		Result	Std. Dev	, RSD	Start Ti	me
*	2	TOC	24.0000	1;1	[TOC] LCS [24 ppm]	.0 0 / infi ( NA / I		25.072 ppn (PASS	p p	)}	2016/06/12	11:24
Р		Base nalysis Type	s ID	Rep	ppm	hâ	Adj	usted	NDIR	Baseline	Pressure	Run Time
	2	TOC	24.0 ppm	1	25.0724	250.7243		192.84	194.75	1.91	54.07	10:32
-1.0-100		pletion ess - C met.		cess o Not	Action hing CA	Method \S_salt_01 (v3)	0711		libration salt_010711 (v14)		Conc - Po 24 ppmC	s 2

Sept. 2	Pos	Analysis Type	Sample ID	Result (	nnmi	d. Dev. pmC)	RSI	)	Start Time	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
************************************	41	TOC	K1605465-001.0	5 ms 30.3′		.0000 ppm	0.000	0% 20	16/06/12 11	:39
	ep # /	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	1	TOC	30.3103	303.1026	230.89	) 2	233.12	2.23	54.03	10:28
	tyangay yay garang ti	Dilution	Blank Contrib	ution M	lethod	Calibra	ation	Marikanija i Hawii in Kalai inkirydayingan i Intel	And the Second Line Conference on the Second C	
		1:10	(TC) 7.6366 (v875)		salt_010711 (v3)	CAS_salt_ (v14	01071	1		
	Pos	Analysis Type	Sample ID	Result (	nnm(:)	d. Dev. pmC)	RSE		Start Time	grandominio noncestrata de la constitución de la co
•	42	TOC	K1605465-002.	05 4.52	266 ppm 0	.1687 ppm	3.7300	0% 20°	16/06/12 11	:53
Re		Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	1	TOC	4.6459	46.4590	41.86	)	43.94	2.09	54.00	10:24
2	2	TOC	4.4074	44.0735	40.10		42.18	2.08 53.9		10:26
1:10		e acquire accommon a common accommon a seconda common per acc	Blank Contrib (TC) 7.6366 (v875)		lethod salt_010711 (v3)	Calibra CAS_salt_ (v14	01071	<b>1</b>	en e la Francisco de Servicio	***************************************
	Pos Analysis Type		Sample ID	Result (	nnmi.i :	d. Dev. pmC)	RSE	)	Start Time	
۰	43	TOC	K1605465-003.	05 5.36	306 ppm 0	.1757 ppm	3.2800	)% 20°	16/06/12 12	:21
Re #	<b>∍</b> p ∤ /	Base \nalysis Type	ppm	hâ	Adjusted (Abs)	NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	<b>.</b>	TOC	5.4848	54.8481	48.04	<b>,</b>	50.03	1.99	53.88	10:30
2	2	TOC	5.2364	52.3635	46.20	)	48.23	2,02	53.85	10:24
		<u>Dilution</u>	Blank Contrib	ution <u>N</u>	<u>lethod</u>	<u>Calibra</u>	<u>ition</u>			
		1:10	(TC) 7.6366 (v875)	(IC) CAS_s	salt_010711 (v3)	CAS_salt_ (v14		1		
	Pos	lype	Sample ID	Result (	nnmi	d. Dev. pmC)	RSE		Start Time	en a la describir de comenciario de la comenciario della comenciar
•	Pos		Sample ID K1605465-004.		ppmC) (p		AMERICAN PROPERTY.		Start Time 16/06/12 12	:49
• Re	44 ∋p	Type	-		ppmC) (p	pmC)	8.550(	0% 20′		Run
Re	44 ∋p ‡ 4	Type TOC Base	K1605465-004.	05 0.80	ppmC) (p 052 ppm 0 Adjusted	.0688 ppm NDIR (A	8.550(	)% 20° Baseline	16/06/12 12 Pressure	Run Time
Re #	44 ∋p ‡ 4	Type TOC Base Analysis Type	K1605465-004.	05 0.80	ppmC) (p 052 ppm 0 Adjusted (Abs)	.0688 ppm NDIR (A	8.550( \bs)	20° Baseline (Abs)	16/06/12 12 Pressure (psig)	Run Time 10:25
Re #	44 ∋p # 4	Type TOC  Base Analysis Type TOC	K1605465-004.  ppm  0.8539	05 0.80  µg  8.5390  7.5655	ppmC) (p 052 ppm 0 Adjusted (Abs) 13.93	.0688 ppm NDIR (A	8.5500 <b>\bs)</b> 16.09 15.43	20° Baseline (Abs)	Pressure (psig) 54.00	Run Time 10:25
Re #	44 ∋p # 4	Type TOC Base Analysis Type TOC TOC	K1605465-004.  ppm  0.8539  0.7566	05 0.80 μg 8.5390 7.5655	ppmC) (p 052 ppm 0 Adjusted (Abs) 13.93	.0688 ppm NDIR (A	8.5500 Abs) 16.09 15.43 ation 01071	20° Baseline (Abs) 2.16 2.22	Pressure (psig) 54.00	Run Time 10:25
Re #	44 ∋p # 4	Type TOC Base Analysis Type TOC TOC Dilution 1:10	ppm  0.8539 0.7566  Blank Contrib (TC) 7.6366	05 0.80 μg 8.5390 7.5655	Adjusted (Abs)  13.93  13.21  Method Sait_010711 (v3)  Storman C)  Storman Column (Approximately 1988)	NDIR (A  Calibra CAS_salt_	8.5500 Abs) 16.09 15.43 ation 01071	D% 20°  Baseline (Abs) 2.16 2.22	Pressure (psig) 54.00	Run Time 10:25
Re #	44 <b>P</b>	Type TOC Base TOC TOC TOC Dilution 1:10  Analysis	ppm  0.8539  0.7566  Blank Contrib (TC) 7.6366 (v875)	μg  8.5390 7.5655  ution M (IC) CAS_s	PpmC   (p   D52 ppm	NDIR (A  Calibra CAS_salt_ (v14	8.5500 Abs) 16.09 15.43 ation 01071	D% 20°  Baseline (Abs) 2.16 2.22	Pressure (psig) 54.00 53.93	Run Time 10:25 10:22
Re # 1 2 2	44  PPP  ###  1  2  Pos  45	Type TOC  Base Analysis Type TOC TOC  Dilution 1:10  Analysis Type	ppm  0.8539 0.7566  Blank Contrib (TC) 7.6366 (v875)  Sample ID	μg  8.5390 7.5655  ution M (IC) CAS_s	PpmC   (p   D52 ppm	NDIR (A  Calibra CAS_salt_ (v14 d. Dev.	8.5500 Abs) 16.09 15.43 ation 01071 i) RSE	Baseline (Abs) 2.16 2.22 1	Pressure (psig) 54.00 53.93	Run Time 10:28 10:22

2	2	TOC	4.7747	·	47.7474	PP Colonic Control Con	42.80	*****************************	44.87	2.07	53.94	10:20
		<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6366 ( (v875)		CAS_sa	e <u>thod</u> alt_0107 (v3)	11	Calibra CAS_salt_ (v14	01071	1		
	Pos	Analysis Type	Sample ID	enancement commerce	Result (p	opmC)		. Dev. omC)	RSI	<b>D</b>	Start Time	•
•	46	TOC	K1605465-006.0	)5	2.60	46 ppm	0,	1689 ppm	6.480	0% 20	116/06/12 13	3:44
Re #		Base Analysis Type	ppm		Pg	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	2.7240		27.2397		27.70		29.39	1.69	53.91	10:24
2	2	TOC	2.4851	50×60 0m/m×3×5×5×5	24.8515	) And Str. Words, we are supposed to the	25.94	************************	28.21	2,27	54.00	10:26
NAME OF THE PARTY	D.	Dilution 1:10	(TC) 7.6366 (I (v875)		CAS_sa	ethod alt_0107 (v3)		<u>Calibra</u> CAS_salt_ (v14 . Dev.	01071 ()		C4- v4 T:	eratu urbus Alerbuss des som
	Pos	Type	Sample ID	~^~**	Result (p	opmC)		omC)	RSI	· · · · · · · · · · · · · · · · · · ·	Start Time	
•	♦ 47 TOC		K1605516-001.0	)4	5.90	56 ppm	0.	1376 ppm	2.330	0% 20	16/06/12 14	1:12
Re #	ep L	Base Analysis Type	ppm	and a constraint that the collections are	μg	Adjus (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	6,0029		60.0290		51.85		53.59	1.74	53.97	10:26
2	<u>-</u>	TOC	5.8083	kranovenski sami nameni sam	58.0834	,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	50.42		52.53	2.11	54.12	10:2
		<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6366 (I (v875)		CAS_sa	ethod alt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	<b>T</b> err		
	Pos	Analysis Type	Sample ID		Result (p	opmC)		. Dev. omC)	RSI	)	Start Time	
•	48	TOC	K1605516-001.04	ms	31.782	20 ppm	0.0	0000 ppm	0.0000	0% 20	16/06/12 14	1:39
Re		Base Analysis Type	ppm		μg	Adjus (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	31.7820		317.8199		241.73	2	43.80	2.08	53.99	10:32
		<u>Dilution</u> 1:10		Blank Contribution (TC) 7.6366 (IC)		Method CAS_sait_010711 (v3)		Calibration  CAS_salt_010711  (v14)				

			Concentration			Min / N	lax	PRESENTE DE L'ANNO DE		orale des effectel has helicular a Monados a decessiva a Monado			
	Pos	BAT	(ppm)	Dil	Sample ID	(% de		Result		Std. Dev.	RSD	Start Ti	me
•	В	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	1		24.419 pp (PAS:	m	0.0000 ppn		2016/06/12	! 14:54
Po	- 1	Base nalysis Type	iD	Rep #	ppm	μg	Adj	usted	~~~	NDIR E	Baseline	Pressure	Run Time
E	В	TOC	25 ppm	1	24.4198	244.1979	w/40-00-40-0-0-0-0-	188.04	*********	190.07	2.03	54.09	10:27

<u>Completion State</u> <u>Success Action</u> <u>Method</u> <u>Calibration</u> <u>STD Conc - Pos B</u>

Success - Criteria met.

Do Nothing

CAS_salt_010711 (v3) CAS_salt_010711 (v14) 50 ppmC

 Sample Type: Check Standard> CCB

From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dii	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	тос	0.0000	1:1	[TOC] CCB [0 <b>pp</b> m]	0 / infinity ( NA / NA )	0.6901 ppm (PASS)	0.0000 <b>p</b> pm	0%	2016/06/12 15:08

was out the think of the same of the same	Pos	Base Analysis Type	ĺD	Rep #	ррт	þg	Adjusted	NDIR	Baseline	Pressure	Run Time	,
	D	TOC	0 ppm	1	0.6901	6.9012	13.26	15.19	1.94	53.96	10:31	

Completion State
Success - Criteria

Success Action

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos D 0 ppmC

2016/06/12 15:23

Ouccess - Ontona	Dortonning
met.	
	and a commence of the commence of the left of the charles are at 1 March 2 Commence (Commence of Commence of Comme

 
 Sample Type: Sample
 From Schedule Version 7

 Pos
 Analysis Type
 Sample ID
 Result (ppmC)
 Std. Dev. (ppmC)
 RSD
 Start Time

16.7597 ppm

Rep #	Base Analysis Type	ppm	μg Adjusted (Abs)		NDIR (Abs)	Baseline Pressure (Abs) (psig)		Run Time
1	TOC	16.6720	166.7196	130.43	132.19	1.75		10:23
2	TOC	16.8475	168.4751	131.73	134.02	2.29		

Dilution 1:10

TOC

49

Blank Contribution (TC) 7.6366 (IC) (v875)

K1605558-009.02 2x

<u>Method</u> CAS_salt_010711 (v3)

Calibration CAS_salt_010711 (v14)

0.1241 ppm | 0.7400%

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	50	TOC	K1605558-009.02 ms	44.0228 ppm	0.0000 ppm	0.0000%	2016/06/12 15:50
			2x				

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	44.0228	440.2284	331.89	333.72	1.83	54.05	10:32

<u>Dilution</u> 1:10 Blank Contribution (TC) 7.6366 (IC) (v875) <u>Method</u> CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

***************************************	1	Pos	Analysis Type	Sample ID	Result (ppmC)	Std, Dev. (ppmC)	RSD	Start Time
des d'embadends	•	51	TOC	RB	1.3770 ppm	0.2644 ppm	19.2000%	2016/06/12 16:05

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1.	TOC	1.5640	15.6396	19.16	<b>2</b> 1.02	1.86	54.11	10:27
2	TOC	1.1901	11.9006	16. <del>4</del> 0	1 - 1 - 1		54.27	

	<u>I</u>	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)			<u>lethod</u> salt_0101 (v3)	711	Calib CAS_sal (v1	01071	1		
And the second second section in the second	Pos	Analysis Type	Sample ID	anners ett Carrenteet in seste	Result (	ppmC)	1	. Dev. omC)	RSI	D	Start Time	<b>)</b>
•	52	TOC	K1605558-012.0	2 2x	17.68	366 ppm	0.	0722 ppm	0.410	0% 2	2016/06/12 16	5:33
Re #		Base nalysis Type	ppm	namen of all a forestered by	hâ		sted bs)	NDIR (	(Abs)	Baselin (Abs)	e Pressure (psig)	Run Time
1		TOC	17.6355		176.3550		137.53		139.26	1.7	3 54.16	10:27
2		TOC	17.7376	terotoriaotornomo	177.3760		138.28		140.16	1.8	8 54.15	10:22
	Ξ	Dilution 1:10	Blank Contrib (TC) 7.6366 (v875)		_	lethod salt_0107 (v3)	711	<u>Calibı</u> CAS_salt (v1	_01071	1		
	Pos Analysis Type  53 TOC		Sample ID		Result (		1	td. Dev. (ppmC)		D	Start Time	•
*			K1605558-015.0	2 2x	18.24	194 ppm	0.	.3723 ppm   2.0400		0% 2	016/06/12 17	7:00
	Rep Base # Analysis Type		ppm		hâ	Adju (Al	sted os)	NDIR (Abs)		Baselin (Abs)	e Pressure (psig)	Run Time
ļ	1 TOC		18.5127				143.99			1.6	6 54.33	10:30
2		TOC	17.9862	altrantia variettiin va vanna v	179.8619	***************************************	140.11	F-8-7-1-0-4 Volt - 2017-0-1-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	142.02	1.9	1 54.21	10:26
	Ŀ	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)			<u>lethod</u> sait_0107 (v3)	711	<u>Calibr</u> CAS_salt (v1	_01071	1		
	Pos Analysis Type				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			********************************	', 		~~~	N. P. 171-14171777 12-7-27-2
		Туре	Sample ID		Result (	ppmC)	(pr	. Dev. omC)	RSI		Start Time	<b>)</b>
**************************************	Pos 54		Sample ID K1605558-026.0	2 2x	***************************************		(pr	. Dev.	RSI		<b>Start Time</b> 016/06/12 17	
	54 p	Type TOC Base nalysis Type			36.66 µg	ppmC)	(pr 0.0	. Dev. omC)	<b>RSI</b>	0% 2		
	54 P Aı	Type TOC  Base nalysis Type TOC	K1605558-026.0 ppm 36.7328		36.66 <b>µg</b> 367.3277	ppmC) 663 ppm Adju	(pr 0.0 ested os) 278.19	, Dev. omC) 0940 ppm NDIR (	<b>RSI</b>	0% 2 Baselin	016/06/12 17 e Pressure (psig) 8 54.16	7:28 Run Time 10:23
	54 P Aı	Type TOC Base nalysis Type	K1605558-026.0		36.66 µg	ppmC) 663 ppm Adju	(pr 0.0 ested os)	Dev. omC) 0940 ppm NDIR (	0.260 Abs)	0% 2 Baselin (Abs)	016/06/12 17 e Pressure (psig) 8 54.16	7:28 Run Time
	54 p Aı	Type TOC  Base nalysis Type TOC	K1605558-026.0 ppm 36.7328	ution	36.66  µg 367.3277 365.9985	ppmC) 663 ppm Adju	(pr 0.0 ssted os) 278.19 277.21	Dev. omC) 0940 ppm NDIR (	RSI 0.260 Abs) 279.87 279.24 ration _01071	0% 2 Baselin (Abs) 1.6 2.0	016/06/12 17 e Pressure (psig) 8 54.16	7:28 Run Time 10:23
Registration of the state of th	54 p Aı	Type TOC Base nalysis Type TOC TOC Dilution	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366	ution	36.66  µg 367.3277 365.9985	ppmC) 663 ppm Adju (Al	(pr 0.0 sted os) 278.19 277.21	Dev. Calibr CAS_salt (v1	RSI 0.2600 Abs) 279.87 279.24 ation 01071 4) RSE	0% 2 Baselin (Abs) 1.6 2.0	016/06/12 17 e Pressure (psig) 8 54.16	Run Time 10:23 10:22
Registration of the state of th	54 P AI	Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)	ution	36.66  Hg  367.3277  365.9985  M  CAS_s	ppmC) 663 ppm Adju (Al	(pr 0.0 sted os) 278.19 277.21	Dev. D940 ppm  NDIR (  Calibr CAS_salt (v1)	RSI 0.2600 Abs) 279.87 279.24 ation 01071 4) RSE	0% 2 Baselin (Abs) 1.6 2.0	e Pressure (psig) 8 54.16 3 54.24	7:28  Run Time 10:23 10:22
Registration of the state of th	54 P A E	Type TOC  Base nalysis Type TOC TOC  Dilution 1:10  Analysis Type TOC  Base nalysis Type	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)  Sample ID	ution (IC)	36.66  Hg  367.3277  365.9985  M  CAS_s	ppmC) 663 ppm Adju (Al	(pr 0.4 sted os) 278.19 277.21 711 Std. (ppi 0.5.	Dev. Calibr CAS_salt (v1	RSI 0.2600 Abs) 279.87 279.24 eation _01071 4) RSE 27.920	0% 2  Baselin (Abs) 1.6 2.0  1	016/06/12 17 e Pressure (psig) 8 54.16 3 54.24  Start Time	7:28  Run Time 10:23 10:22
* Re ## 1 1	Pos 55 P Ar	Type TOC  Base nalysis Type TOC TOC  Dilution 1:10  Analysis Type TOC  Base nalysis Type TOC	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)  Sample ID  RB  ppm  2.2409	ution (IC)	36.66  Pg 367.3277 365.9985  M CAS_s  Result (p 1.87	ppmC) 663 ppm Adju (Al lethod salt_0107 (v3)  ppmC) 15 ppm Adju	(pr 0.4 278.19 277.21 711 Std. (ppi 0.5. sted os) 24.14	Dev. D940 ppm  NDIR (  Calibr CAS_salt (v1  Dev. mC) 224 ppm	RSI 0.2600  Abs) 279.87 279.24  ation _01071 4)  RSD 27.920  Abs) 25.83	0% 2  Baselin (Abs) 1.6 2.0  1  Baselin (Abs) 1.6	016/06/12 17 e Pressure (psig) 8 54.16 3 54.24  Start Time 016/06/12 17 e Pressure (psig) 9 54.29	7:28  Run Time 10:23 10:22  7:56  Run Time 10:24
* Ree ##	Pos 55 P Ar	Type TOC  Base nalysis Type TOC TOC  Dilution 1:10  Analysis Type TOC  Base nalysis Type	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)  Sample ID  RB  ppm	ution (IC)	36.66  Pg 367.3277 365.9985  M CAS_s  Result (p 1.87	ppmC) 663 ppm Adju (Al lethod salt_0107 (v3)  ppmC) 15 ppm Adju	(pr 0.4 sted os) 278.19 277.21 711 Std. (ppi 0.5. sted os)	Dev. D940 ppm  NDIR (  Calibr CAS_salt (v1  Dev. mC) 224 ppm	RSI 0.2600 Abs) 279.87 279.24 eation _01071 4) RSE 27.920 Abs)	0% 2  Baselin (Abs)  1.6 2.0  1  0% 2  Baselin (Abs)	016/06/12 17 e Pressure (psig) 8 54.16 3 54.24  Start Time 016/06/12 17 e Pressure (psig) 9 54.29	7:28  Run Time 10:23 10:22  7:56  Run Time
* Re ## 1 1	Pos 55	Type TOC  Base nalysis Type TOC TOC  Dilution 1:10  Analysis Type TOC  Base nalysis Type TOC	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)  Sample ID  RB  ppm  2.2409	ution (IC)	36.66  Pg 367.3277 365.9985  M CAS_s  Result (p 1.87'  Pg 22.4090 15.0205	ppmC) 663 ppm Adju (Al lethod salt_0107 (v3)  ppmC) 15 ppm Adju	(pr 0.4 sted os) 278.19 277.21 711 Std. (pp 0.5 sted os) 24.14 18.70	Dev. D940 ppm  NDIR (  Calibr CAS_salt (v1  Dev. mC) 224 ppm	RSI 0.2600 Abs) 279.87 279.24 ation 27.920 Abs) 25.83 20.52 ation 01071	0% 2  Baselin (Abs) 1.6 2.0  1  Baselin (Abs) 1.6 1.8	016/06/12 17 e Pressure (psig) 8 54.16 3 54.24  Start Time 016/06/12 17 e Pressure (psig) 9 54.29	7:28  Run Time 10:23 10:22  7:56  Run Time 10:24
* Ree ## 1 2	Pos 55	Type TOC  Base nalysis Type TOC TOC  Dilution 1:10  Analysis Type TOC  Base nalysis Type TOC  Collution TOC  Dilution TOC  Dilution TOC  Dilution TOC  Dilution	ppm  36.7328 36.5999  Blank Contrib (TC) 7.6366 (v875)  Sample ID  RB  ppm  2.2409 1.5021  Blank Contrib (TC) 7.6366	ution (IC)	36.66  Pg 367.3277 365.9985  M CAS_s  Result (p 1.87'  Pg 22.4090 15.0205	ppmC) 663 ppm Adju (Al lethod salt_0107 (v3)  ppmC) 15 ppm (Al calt_0107 (v3)	(pr 0.4 sted os) 278.19 277.21 711 Std. (pp 0.5 sted os) 24.14 18.70	Dev. Calibr CAS_salt (v1  Dev. mC) 224 ppm  Calibr CAS_salt	RSI 0.260 Abs) 279.87 279.24 ation 01071 4) RSE 27.920 Abs) 25.83 20.52 ation 01071 4) RSE	0% 2  Baselin (Abs) 1.6 2.0  1  Baselin (Abs) 1.6 1.8	016/06/12 17 e Pressure (psig) 8 54.16 3 54.24  Start Time 016/06/12 17 e Pressure (psig) 9 54.29	7:28  Run Time 10:23 10:22  7:56  Run Time 10:24 10:24

R	tep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
- Internation	1	TOC	40.6053	406.0528	306.71	308.79	2.08	54.27	10:30
200	2	TOC	41.6925	416.9251	314.72	316.60	1.87	54,34	10:24

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

1	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	. Start Time
•	57	TOC	K1605558-032.02 2x	38.8380 ppm	0.0394 ppm	0.1000%	2016/06/12 18:51

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	38.8658	388.6582	293.90	295.60	1.70	54.22	10:27
2	TOC	² 38.8102	388.1016	293.49	295.39	1.90	54.33	10:22

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC)
 CAS_salt_010711
 CAS_salt_010711

 (v875)
 (v3)
 (v14)

A A A A A A A A A A A A A A A A A A A	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	58	TOC	K1605558-043.02	7.9518 ppm	0.4849 ppm	6.1000%	2016/06/12 19:19

2	ep #	Base Analysis Type	pj	nm i ua i i		Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	ΛΙĎ	8.2947	82.9466	68.73	71.02	2.29	54.31	10:25
	2	TOC	W	7.6089	76.0890	63.68	65.45	1.77	54.25	10:28

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

#### Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 7

The state of the s	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	В	TOC	25,0000	1:2	F 7	0 / infinity	24,9489	0.0000	0%	2016/06/12 19:46
e je jihori medinedik ed e		A) manhahanda			ppm [25 ppm]	( NA / NA )	(PASS)	ppm		

***************************************	Pos	Base Analysis Type	ID	Rep #	ppm	hā	Adjusted	NDIR	Baseline	Pressure	Run Time	
Charles des desses	В	TOC	25 ppm	1		249.4888		193.82	1.89	54.34		,

Completion StateSuccess ActionMethodCalibrationSTD Conc - Pos BSuccess - Criteria<br/>met.Do NothingCAS_salt_010711CAS_salt_01071150 ppmC(v3)(v14)

	Sample Type: Check Standard> CCB From Schedule Version 7										
	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
The second second second		<u> </u>	(0.000 mm)		ggg, gang san armer an manur gartmare armano an manur na badir more sheriki Adhairinin 1-11 f	***************************************	annon maine de la company				

* [	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / inf ( NA /			00 0% om	2016/06/12	20:01
Pos	Base Analysis Type	in in the second	Rep #	ppm	hа	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	1.2234	12.2342	17.18	19.29	2.11	54.27	10:33
********	mpletion S ccess - Crit met.		ess Ac Nothir	·	Method S_salt_01 (v3)	-	Calibration S_salt_010711 (v14)		Conc - Pos 0 ppmC	s D

am	ple ⁻	T <u>ype</u> : Sample							From	Schedule V	ersion
Р	os	Analysis Type	Sample ID	Result (p	opmC)		Dev. mC)	RSE	)	Start Time	artico Policina de La compania de L
	59	TOC	MB4	1.11	84 ppm	0.0	0000 ppm	0.0000	0% 20	16/06/12 20	):16
ep #	(	Base nalysis Type	ppm	hā	Adjust (Abs	3	NDIR (A	∖bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	1.1184	11.1837	ven	15.87		17.56	1.69	54.27	10:32
	<u></u>	<u> Dilution</u>	Blank Contribution	<u>1 Me</u>	ethod		Calibra	<u>ition</u>			
		1:10	(TC) 7.6366 (IC) (v875)		alt_01071 <i>*</i> (v3)	1	CAS_salt_ v14	-	1		

Sa	mple	<u>= Type</u> : (	Check Standard	> L(	CS					From	Schedule V	ersion
Carlo as Cilin	Pos	BAT	Concentration (ppm)	¹ Dil	Sample ID	Min / I (% de		Result	Std. Dev	/. RSD	Start Ti	me
********	2	TOC	24.0000	1:1	[TOC] LCS [24 ppm]	.0 0 / infi ( NA / I		25.330i ppn (PASS	п рр	/ - /	2016/06/12	20:30
Ρ	os A	Base Analysis Type	i ID	Rej #	ppm	hâ	Adj	usted	NDIR	Baseline	Pressure	Run Time
	2	TOC	24.0 pp <b>m</b>	1	25.3308	253.3080	**********************	194.75	196.81	2.06	54.34	10:30
		npletion cess - Ci met.		ccess Do Not	Action hing C/	<u>Method</u> AS_salt_01 (v3)			dibration salt_010711 (v14)		Oonc - Po 24 ppmC	<u>s 2</u>

Sam	ple 1	Гуре: Sample	ran voormaan voormalisesta kaleen maarkala ele 1760-t-174 (1777) (1776) (1777) (1777) (1777) (1777) (1777) (17		······································			***************************************	From	Schedule V	ersion 7
F	os	Analysis Type	Sample ID	Result (	ppmC)		Dev. mC)	RSI	) William All Walance	Start Time	•
<b>*</b> [	60	TOC	K1605558-046.02	6.93	352 ppm	0.0	0052 ppm	0.070	0% 20	16/06/12 20	):45
Rep	;	Base nalysis Type	ppm	hã	Adjust (Abs	1	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	6.9316	69.3155		58.69	are any fronteness from the second second second second	60.57	1.88	54.22	10:27
2		TOC	6.9389	69.3888	***************************************	58.74	00-14-0-00-00-00-00-00-00-00-00-00-00-00-00-	60.58	1.84	54.17	10:27

<u>Dilution</u> Blank Contribution Method Calibration

	1:10	(TC) 7.6366 (v875)	(IC) CA	S_salt_0107 (v3)	711	CAS_salt_ (v1-		1		
Po	s Analysis Type	Sample ID	Resu	it (ppmC)		. Dev. omC)	RSI	)	Start Time	
<ul><li>◆ 61</li></ul>	TOC	K1605558-049	.02 6	8.9506 ppm	0.	0098 ppm	0.140	0% 20	16/06/12 21	:12
Rep #	Base Analysis Type	ppm	hā	Adju (Al		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9436	69.43	64	58.78		60.86	2.08	54.15	10:25
2	TOC	6.9575	69.57	48	58.88		61.05	2.17	54.13	10:27
	Dilution	Blank Contrib	ution	Method		Calibra	ation			
	1:10	(TC) 7.6366 (v875)		S_salt_0107 (v3)	711	CAS_salt_ (v14	01071	1		
Po	s Analysis Type	Sample ID	Resu	It (ppmC)	;	. Dev. omC)	RSI		Start Time	1
<ul><li>♦ 62</li></ul>	2 TOC	K1605627-006	.06 5	i.6495 ppm	0.0	0269 ppm	0.480	0% 20	16/06/12 21	:40
Rep #	Base Analysis Type	ppm	hā	Adju (Al		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5,6685	56.68	50	49.39		51,24	1.86	54.12	10:24
2	TOC	5.6305	56.30	49	49.11		50.92	1.81	54.13	10:25
<u> </u>	Dilution 1:10	Blank Contrib (TC) 7.6366 (v875)		Method S_salt_0107 (v3)	agandis hali dani dan kad bankand panamandan S	Calibra CAS_salt_ (v14	01071	1	houseless (Mohamman Arbeit Franzis Arres	
Po	s Analysis Type	Sample ID	Resu	It (ppmC)		. Dev. omC)	RSE		Start Time	!
• 63	тос	RB	(	).8451 ppm	0.0	0158 ppm	1.870	0% 20	16/06/12 22	:08
Rep #	Base Analysis Type	ppm	hā	Adju (Al		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8339	8,33	94	13.78	SOLIO DESCRIPTION DE LA COMPANSA DE	15,79	2.01	54.12	10:27
2	TOC	0.8563	8.56	34	13.94		15.85	1.91	54.13	10:24
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)		Method S_salt_0107 (v3)	711	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Po	s Analysis Type	Sample ID	Resu	It (ppmC)	(	Dev. mC)	RSI	)	Start Time	
<b>*</b> 64	TOC	K1605657-009	.02 6	.3004 ppm	0.0	0729 ppm	1,1600	0% 20°	16/06/12 22	::35
Rep	Base Analysis Type	ppm	ħā	Adju (At		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3520	63.51	96	54.42		56.34	1.92	54.13	10:25
2	TOC	6.2489	62.48	91	53,66		55.87	2.20	54.15	10:27
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6366 (v875)		Method S_salt_0107 (v3)	<b>7</b> 11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Po	s Analysis Type	Sample ID	Resu	it (ppmC)	<b>{</b>	. Dev, omC)	RSE	)	Start Time	
♦ 65	TOC	K1605657-009.0	2 ms 31	.9983 ppm	0.0	0000 ppm	0.0000	0% 20°	16/06/12 23	:03
glacement of the last of the l	remontal de la ciclo de la del carte de la compania de la compania de la compania de la compania de la compani		vestila e real-durant oversitara, constitut foro brank branchis and s	t week of her his man he established her	2 to 2 to 4 to 2 to 5		1		***************************************	

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	<b>ル</b> 人 31.9983	319.9827	243.32	245.34	2.02	54.17	10:31
Paramanan maryari	· · · · · · · · · · · · · · · · · · ·					£444.004.04.000000000000000000000000000		

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC)
 CAS_salt_010711
 CAS_salt_010711

 (v875)
 (v3)
 (v14)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
<ul><li>66</li></ul>	TOC	K1605657-012.02	6.3736 ppm	0.0853 ppm	1.3400%	2016/06/12 23:18

Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	NA 6.4340	64.3396	55.03	57.02	1.99	54.17	10:30
2	TOC	6.3133	63.1327	54.14	56.11	1.97	54.18	10:28

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
 • 67	TOC	K1605657-015.02	6.1098 ppm	0.0337 p <b>p</b> m	0.5500%	2016/06/12 23:45

7	Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
777	1	TOC	6.1336	61.3364	52.81	54.95	2.14	54.20	10:29
	2	TOC	6.0860	60.8599	52.46	54.52	2.05	54.21	10:28

 Dilution
 Blank Contribution
 Method
 Calibration

 1:10
 (TC) 7.6366 (IC) (v875)
 CAS_salt_010711 (v3)
 CAS_salt_010711 (v14)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 7

***************************************		Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
200	•	В	TOC	25,0000	1:2	[TOC] CCV 25	0 / infinity	24.2884	0.0000	0%	2016/06/13 00:13
entreentreentre		1000				ppm [25 ppm]	(NA/NA)	ppm (PASS)	ppm		

Pos	Base Analysis Type	ID	Rep #	ppm	þд	Adjusted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.2884	242.8837	187.07	189.13	2.06	54.21	10:29

Completion StateSuccess ActionMethodCalibrationSTD Conc - Pos BSuccess - Criteria<br/>met.Do NothingCAS_salt_010711CAS_salt_01071150 ppmC(v3)(v14)

	<u>Sa</u>	mple	Type: (	Check Standard -	> C	CB				From	Schedule Version 7	,
	200	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time	
educido desedados diferendos	*	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity ( NA / NA )	0.7723 ppm	0.0000 ppm	0%	2016/06/13 00:28	

				orn Constant of Arthur St. 1985 Section 1.	o K. Politik K.		(	PASS)			Plant Stade St. St. Stade St. St. State St. St. State St.	-5-5-Monthe/Mothers
Pos	Base Analysis Type		ID Rep	pp	m	hā	Adjuste	d NE	DIR	Baseline	Pressure	Run Time
D	TOC	(	) ppm   1	C	0.7723	7.7226	13.	86	15.44	1.58	54.23	10:34
Co	mpletion S	State	Success A	ction		Method		Calibra	ation	STD	Conc - Po	s D
	ccess - Cri met.		Do Nothi	ng	CAS_	_salt_010 _(v3)		CAS_salt_ (v14		1 	0 ppmC	a direkt was dienson'e N. A. voor A.
Samp	le Type: S	ample	, para 1 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -		envenciones entende meditarbords best desilven		***************************************			From	Schedule V	ersion
Po	os Analy Typ		Sample I	)	Result	(ppmC)		. Dev. omC)	RSE	)	Start Time	
<ul><li>6</li></ul>	8 TO		K1605695-00	1.14	2.5	5359 ppm	١ 0.	0784 ppm	3.0900	0% 20°	16/06/13 00	:43
Rep #	Base Analysis		ppm		hā .		usted \bs)	NDIR (/	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	•	2.5913		25.9132	2	26.72		28.78	2.06	54.25	10:26
2	тос		2.4804		24.8040	)	25.91		28.10	2.20	54.25	10:2
	Dilution		Blank Contri	bution		Method		Calibra	ation			
	1:10		(TC) 7.6366 (v875)		CAS_	_salt_010 (v3)	711	CAS_salt_ (v14		1		
Po	os Analy Typ		Sample II		Result	(ppmC)	(pı	. Dev. omC)	RSE		Start Time	war i et Branch Joseph
<ul><li>6</li></ul>	9 TO(		K1605695-001.	14 ms	26.	5944 ppn	٥.	0000 ppm	0.0000	0% 20°	16/06/13 01	:10
Rep #	Base Analysis	-	ppm		hā		usted \bs)	NDIR (	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	• •	26.5944		265.9443	3	203.52	2	205.43	1.92	54.27	10:29
	<u>Dilution</u> 1:10		Blank Contri (TC) 7.6366 (v875)	3 (IC)		Method _salt_010 (v3)	)711	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Po	os Analy Tvn		Sample II		Resulf	(ppmC)	,	. Dev.	RSI	)	Start Time	

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	70	TOC	K1605695-002.12 4x	0.937 <b>4</b> ppm	0.0636 ppm	6.7800%	2016/06/13 01:25

Rep #	Base Analysis Type	ppm	μд	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9823	9.8233	14.87	16,90	2.03	54.29	10:26
2	TOC	0.8925	8.9246	14.21	16.10	1.89	54.31	10:25

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6366 (IC)	CAS_salt_010711	CAS_salt_010711
	(v8 <b>7</b> 5)	(v3)	(v14)

A CONTRACTOR STREET	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
A	<b>♦</b> 71	тос	K1605695-003.14	1.0305 ppm	0.0667 ppm	6.4700%	2016/06/13 01:53

Rep #	Base Analysis Type	ppm	hã	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0776	10.7764	15.57	17.35	1.77	54.30	10:28
i i	to Shakara and the supported to the first control on the state of the							

2		TOC	0.9833	9.8328	14.	88	16.57	1.69	54.31	10:31
	<u> </u>	<u>Dilution</u>	Blank Contribu		Method	Calibra				
		1:10	(TC) 7.6366 (I (v875)	C) CAS_s	salt_010711 (v3)	CAS_salt_ (v1		1		
	Pos	Analysis Type	Sample ID	Result (	nnmill	Std. Dev. (ppmC)	RSI	ס	Start Time	
•	72	TOC	K1605879-001.0	1.52	271 ppm [	0.0642 ppm	4.210	0% 20	16/06/13 02	2:20
Re #		Base nalysis Type	ppm	ħâ	Adjusted (Abs)	NDIR (	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	1.5725	15.7252	19.:	22	21.15	1.93	54.33	10:30
2		TOC	1.4817	14.8169	18.	55	20.34	1.79	54.34	10:23
	ı	Dilution	Blank Contribu	tion N	lethod	Calibr	ation			
		1:10	(TC) 7.6366 (I (v875)	C) CAS_	salt_010711 (v3)	CAS_salt_ (v1		1		
	Pos	Analysis Type	Sample ID	Result (	nnm(:)	Std. Dev. (ppmC)	RSI	)	Start Time	maar aqaac amar accer gaaa
•	73	TOC	K1605916-002.0	2 1.43	301 ppm	0.1094 ppm	7.650	0% 20	16/06/13 02	2:48
Re #		Base nalysis Type	ppm	hā	Adjusted (Abs)	NDIR (	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	1.5075	15.0748	18.	74	20.35	1.61	54.36	10:26
2		TOC	1.3527	13.5271	17.6	30	19.56	1.96	54.37	10:24
	ı	Dilution	Blank Contribu	tion N	lethod	Calibr	ation			
		1:10	(TC) 7.6366 (I (v875)		salt_010711 (v3)	CAS_salt_ (v1-	_01071	1		
I	os	Analysis Type	Sample ID	Result (	nnm(i)	Std. Dev. (ppmC)	RSE	)	Start Time	
&	74	TOC	K1605916-003.0	2 1.00	360 ppm	0.0370 ppm	3.5700	0% 20	16/06/13 03	3:16
Re #		Base nalysis Type	ppm	μg	Adjusted (Abs)	NDIR (	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	1.0622	10.6217	15.4	46	17.32	1.86	54.38	10:25
2		TOC	1.0099	10.0989	15.0	08	16.77	1.70	54.39	10:26
	ĺ	<u>Dilution</u>	Blank Contribu	<u>tion</u> N	<u>flethod</u>	Calibra	ation			
	-	1:10	(TC) 7.6366 (I (v875)	***************************************	salt_010711 (v3)	CAS_salt_ (v1-	01071	1		

San	nple	e Type: (	Check Standard -	> CC	V 25 ppm					From	Schedule V	ersion
Treat of the Fred Colored	Pos	s BAT	Concentration (ppm)	Dil	Sample ID	Min / M (% de	- ' ;	Result	Std. Dev	v. RSD	Start Ti	me
•	В	TOC	25.0000	1:2	[TOC] CCV 28 ppm [25 ppm]	3	• ;	23.913 ppr (PASS	n pr	00 0% om	2016/06/13	3 03:44
Рс	s ,	Base Analysis Type	ID	Rep #	ppm	ħâ	Adj	usted	NDIR	Baseline	Pressure	Run Time
В	3	TOC	25 ppm	1	23,9132	239.1324		184.31	186.15	1.84	54.41	10:2

Completion State

Success Action

Method

<u>Calibration</u>

STD Conc - Pos B

Success - Criteria met.

Do Nothing

CAS_salt_010711 (v3) CAS_salt_010711 (v14) 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 7

Р	os	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	TOC	0.0000	1:1	[TOC] CCB [0	0 / infinity	0.7205	0.0000	0%	2016/06/13 03:58
***************************************					ppm]	(NA/NA)	ppm (PASS)	ppm		1 mm = 1

Pos	Base Analysis Type	ΙD	Rep #	ppm	μg	Adjusted	NDIR	Baseline	Pressure	Run Time	The state of the s
D	TOC	0 ppm	1	0.7205	7.2053	13.48	15.07	1.59	54.43	10:30	

**Completion State** 

Success Action

<u>Method</u>

<u>Calibration</u>

STD Conc - Pos D

Success - Criteria met.

Do Nothing

CAS_salt_010711 (v3)

CAS_salt_010711 (v14) 0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v874	1.7143	0.6380	0.0000	0.0000	0.0000	2016/06/10 22:46	Fusion1 (Fusion1)
v875	1.4050	0.4960	0.0000	0.0000	0.0000	2016/06/11 15:48	Fusion1 (Fusion1)

#### Calibrations

Name: CAS_salt_010711 (TOC)

Version:

v14

Calibration curve

TOC: y = 7.366x + 8.173

Ver Creation:

2016/02/29 21:15

formula: r² value:

TOC:  $r^2 = 0.99958$ 

Comment:

Operator:

about.blank

Fusion1 (Fusion1)

Basic Analysis

Type

TOC

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	10.4880	0.0000		2016/02/29 19:49
0.500 ppm	13.1800	0.5000		2016/02/29 20:03
1.0 ppm	16.6270	1.0000		2016/02/29 20:17
	A CONTRACTOR CONTRACTO	A C A THE CONTRACTOR AND ADMINISTRATION OF AN ADMINISTRATION AND ADMINISTRATION ADMI	na managaman ang mang mang mang mang man	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

5.0 ppm	45.3570	5.0000	2016/02/29 20:31
10 ppm	75.7540	10.0000	2016/02/29 20:46
25 ppm	192.0010	25.0000	2016/02/29 20:59
50 ppm	377.7470	50.0000	2016/02/29 21:13

#### Methods

Name: CAS_salt_010711 (TOC)

Version:

v3

Ver Creation:

2013/02/04 11:45

Operator:

Gen Chem Lab (Fusion1)

Comment:

Parameter	Value	Advanced Parameter	Value
SampleVolume	10.0 mL	NeedleRinseVolume	5.0 ml
Dilution	1:10	VialPrimeVolume	2.0 ml
AcidVolume	0.5 ml	ICSamplePrimeVolume	2.0 ml
ReagentVolume	2.0 ml	ICSpargeRinseVolume	12.0 ml
UVReactorPrerinse	Off	BaselineStabilizeTime	0.70 min
UVReactorPrerinseVolume	5.0	DetectorPressureFlow	150 ml/min
NumberOfUVReactorPrerinses	1	SyringeSpeedWaste	10
ICSpargeTime	1.00 mins	SyringeSpeedAcid	7
DetectorSweepFlow	500 ml/min	SyringeSpeedReagent	7
PreSpargeTime	2.00 mins	SyringeSpeedDIWater	7
SystemFlow	500 ml/min	NDIRPressurization	60 psig
	enthal (1916-1917) (Arthur 1914-1914) (Arthur 1944) (Arthur 1944) (Arthur 1944) (Arthur 1947) (Arthur 1947) (A The Charles of Charle	SyringeSpeedSampleDispense	5
		SyringeSpeedSampleAspirate	4
		SyringeSpeedUVDispense	7
		SyringeSpeedU <b>V</b> Aspirate	5
		SyringeSpeedICDispense	7
		SyringeSpeedICAspirate	5
		NDIRPressureStabilize	1.75 min
		SampleMixing	Off
		SampleMixingCycles	1
		SampleMixingVolume	10.0
		contract on the contract of th	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

# Acceptance / Approval

LowLevelFilterNDIR

#### Electronic Signatures

Report	User Name	Acceptance	Reason	Date
Version		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
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Off

# Report History

## Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2016/06/13 04:14

Work Re	equest#	Original ( <u>K 5</u> 756)	KS975	K5783	KUNY	K5768	KS91	4 KLISS	Klory	1 11604	Ý
Tier:		ī.		I	I	工	Ĭ.	W	I	· despui	
Date An	alvzed:	6.13.16		Klal		195 KG		(5435 )	K 5787	K6239	K6238
Analyst:		s il		Į.	and sale		T	7 3 K639	<b>A</b>	roy K	in the second
,		TUC/POC				KGKL I	Kledd. T	) NOSS	6 116	roy K Z	3776 D
Analysis  Explain		" responses to o		DATA QU	DRGANIC	KUJ Z EPORT S			508689 30689 00643 00643 ow.	,	
1.		aethod name ar						kes/no/N			
2.		g times met for		-				yes/no/NA			
3.		culations corre		TOTAL TOTAL TOTAL CONT.	attpres,			yes/no/Na			
4.	Is the re	eporting basis o	correct? (Dry	y Weight)				yes/no/N			
5.	All qua	lity control crit	teria met?					yeş/no			
6.	Is the c	alibration curve	e correlation	i coefficient≥	2 0.995?			/yes/no/NA			
7.	MBs, C frequen	CCVs, CCBs, L icy?	CSs, Dups,	and Spikes, a	malyzed at	proper		gesyno/N	4.		
8.	Are IC	Vs, CCVs, and	CCBs all wi	ithin acceptar	nce limits?			/yes/no/N/	4		
9.	Are res	ults for method	ls blanks all	ND?				/yēs/no/N/	4		
10.		QC samples w 6 rec, MS/DMS			S RPDs, et	c.)		yes/no/N/	Ā		
11.	Are all	exceptions exp	lained?					yes/mo/N/	4		
12.	Have al	ll applicable se	rvice reques	ts been revie	wed?			∑ges/no/N∠	4		
13.	Are all	samples labele	d correctly?					es/no/NA			
14.		II instructions o pecial MRLs, Q				•		(es/no/N/	A		
15.	Are det	ection limits ar	ıd units repo	rted correctly	y?			(ves/no/N/	\$		
16.	Is the u	nused space on	the benchsh	eet crossed o	out?			/no/N/			
17.		alysis turned in						yerno/N/			
COMM	)	10.) 614 Sevent At Nigh RPO 6238-1 Levery 5768 Aut 3750 dec 6	Rased A due to nw5715	ince to use making making bu	to sup 11 to sup 11 to with	which Le making Ferre e.  h 5914	- 5 t o K H 6230	MIL, par f.c separt Balan	C. 6239	5-105 F	m, low
Final Ap	proved l	by:	tter de l'algebra de l'Alle de l'Alle de Année de	<i></i>	Date		eft,	//C DOREPORT			

# **Analytical Results Summary**

Instrument Name: K-TOC-01 Analyst: BHETLAND Analysis Lot: 500687 Method/Testcode: SM 5310 C/TOC T

_ab Code	<b>Target Analytes</b>	<u>QC</u>	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Di		PQL % Re	c % RSD		QC?	<u>Tier</u>	į
<1605750-002	Carbon, Total Organic			Water	10.07 mg/L	t0 ml	10.1 mg/L = 1	0.07	0.50		6/13/16 16:00	Ν	IV	ŀ
<b>₹1605750-003</b>	Carbon, Total Organic			Water	10.30 mg/L		10.3 mg/L 1	0.07	0.50		6/13/16 16:00	Ν	IV	ı
<b>€1605750-004</b>	Carbon, Total Organic	N/A		Water	10.08 mg/L	10 ml	10.1 mg/L 1	0.07	0.50		6/13/16 16:00	Ñ	IV	1
C1605750-005	Carbon, Total Organic	N/A		Water	7.48 mg/L	10 ml	7.48 mg/L 1	0.07	0.50		6/13/16 16:00	N	IV	_
<b>€1605768-001</b>	Carbon, Total Organic	N/A		Water	0.48 mg/L	10 ml	$0.50 \text{ mg/L} \cdot \text{U} = 1$	0.07	0.50		6/13/16 16:00	N	Ι.	
<1605 <b>7</b> 68-002	Carbon, Total Organic	N/A		Water	0.37 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	Ν	1	
<1605768-003	Carbon, Total Organic	N/A		Water	1.27 mg/L	10 ml	1.27 mg/L 1	0.07	0.50		6/13/16 16:00	N	I	_
<1605914-032	Carbon, Total Organic	N/A		Water	0.15 mg/L	10 ml	0.15 mg/L J 1	0.07	0.50		6/13/16 16:00	N	IV	
<1605975-001	Carbon, Total Organic	N/A		Water	1.51 mg/L	10 ml	1.51 mg/L 1	0.07	0.50		6/13/16 16:00	N	Ι	
<1605975-002	Carbon, Total Organic	N/A		Water	1.32 mg/L	10 ml	1.32 mg/L 1	0.07	0.50	<del>-</del> -	6/13/16 16:00	N	Ĩ	_
ζ1605983-001	Carbon, Total Organic	N/A		Water	0.09 mg/L	10  ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	Π	
ζ1606042-001	Carbon, Total Organic	N/A		Drinking Water	0.70 mg/L	10 ml	0.70 mg/L 1	0.07	0.50		6/13/16 16:00	N	H	
\$1606048-001	Carbon, Total Organic	N/A		Drinking Water	1.25 mg/L	10 ml	1.25 mg/L 1	0.07	0.50		6/13/16 16:00	N	II	_
ζ1606048-002	Carbon, Total Organic	N/A		Drinking Water	1.32 mg/L	10 ml	1.32 mg/L 1	0.07	0.50		6/13/16 16:00	N	Π	ı
<b>\$1606048-003</b>	Carbon, Total Organic	N/A		Drinking Water	1.16 mg/L	10 ml	1.16 mg/L 1	0.07	0.50		6/13/16 16:00	N	II	
ζ1606103-002	Carbon, Total Organic	N/A		Drinking Water	0.64 mg/L	10 ml	0.64 mg/L 1	0.07	0.50	*	6/13/16 16:00	N	Ι	_
ζ1606159-001	Carbon, Total Organic	N/A		Water	0.25 mg/L	10 ml	0.25 mg/L J 1	0.07	0.50		6/13/16 16:00	N	ΙV	
<b>₹1606159-002</b>	Carbon, Total Organic	N/A		Water	0.26 mg/L	10 ml	$0.26~\mathrm{mg/L}~\mathrm{J}-1$	0.07	0.50		6/13/16 16:00	N	ΙV	į
ζ1606174-001	Carbon, Total Organic	N/A		Water	2.47 mg/L	10 ml	2.47 mg/L 1	0.07	0.50		6/13/16 16:00	N	II	_
ζ1606195-002	Carbon, Total Organic	N/A		Drinking Water	$0.78~\mathrm{mg/L}$	10 ml	0.78 mg/L 1	0.07	0.50		6/13/16 16:00	N	I	
CQ1606456-01	Carbon, Total Organic			Water	-0.08 mg/L		0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	IV	L
ζQ1606456-02	Carbon, Total Organic			Water	24.22 mg/L		24.2 mg/L 1	0.07	0.50 101		6/13/16 16:00	N	IV	
CQ1606456-03	Carbon, Total Organic			Water	24.08 mg/L		24.1 mg/L 1				6/13/16 16:00	N	IV	
<q1606456-04< td=""><td>Carbon, Total Organic</td><td>CCV</td><td></td><td>Water</td><td>24.12 mg/L</td><td>10 ml</td><td>24.1 mg/L 1</td><td></td><td></td><td></td><td>6/13/16 16:00</td><td>N</td><td>IV</td><td></td></q1606456-04<>	Carbon, Total Organic	CCV		Water	24.12 mg/L	10 ml	24.1 mg/L 1				6/13/16 16:00	N	IV	
ζQ1606456-05	Carbon, Total Organic			Water	23.67 mg/L	10 ml	23.7 mg/L 1				6/13/16 16:00	N	ΙV	_
ζQ1606456-06	Carbon, Total Organic	CCV		Water	23.60 mg/L		23.6 mg/L 1				6/13/16 16:00	N	ΙV	
CQ1606456-07	Carbon, Total Organic	CCB		Water	-0.08 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	IV	
ζQ1606456-08	Carbon, Total Organic	CCB		Water	5.19900000000001E	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	IV	_
CQ1606456-09	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	IV	
<q1606456-10< td=""><td>Carbon, Total Organic</td><td>CCB</td><td></td><td>Water</td><td>0.02 mg/L</td><td>10 ml</td><td>0.50 mg/L U 1</td><td>0.07</td><td>0.50</td><td></td><td>6/13/16 16:00</td><td>N</td><td>IV</td><td>i</td></q1606456-10<>	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	IV	i
CQ1606456-11	Carbon, Total Organic		K1605750-002	Water	36.37 mg/L		36.4 mg/L 1	0.07	0.50 105		6/13/16 16:00	N	ΙV	_
CQ1606456-12	Carbon, Total Organic		K1605750-002	Water	9.95 mg/L		9.95 mg/L 1	0.07	0.50	l	6/13/16 16:00	N	IV	
CQ1606456-13	Carbon, Total Organic	DUP	K1605750-003	Water	9.72 mg/L	10 ml	9.72 mg/L 1	0.07	0.50	6	6/13/16 16:00	N	lV	
\$Q1606456-14	Carbon, Total Organic	DUP	K1605750-004	Water	9.82 mg/L	10 ml	9.82 mg/L 1	0.07	0.50	3	6/13/16 16:00	N	IV	_
		_								4			]	

findicates Final Result is not yet adjusted for Solids because it has not yet been determined.

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# **Analytical Results Summary**

Instrument Name: K-TOC-01 Analyst: BHETLAND Analysis Lot: 500687 Method/Testcode: SM 5310 C/TOC T

													1
Lab Code	Target Analytes	<u>QC</u>	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Dil	MDL	PQL % Re	% RSD	Date Analyzed	QC?	<u>Tier</u>
XQ1606456-15	Carbon, Total Organic	DUP	K1605750-005	Water	7.26 mg/L		7.26 mg/L 1	0.07	0.50	3	6/13/16 16:00	N	IV
KQ1606456-16	Carbon, Total Organic	MS	K1605975-001	Water	26.97 mg/L	10 ml	27.0  mg/L I	0.07	0.50 102		6/13/16 16:00	N	I
KQ1606456-17	Carbon, Total Organic	DUP	K1605975-001	Water	1.48 mg/L	10 ml	1.48 mg/L 1	0.07	0.50	2	6/13/16 16:00	N	I
KQ1606456-18	Carbon, Total Organic	DUP	K1605975-002	Water	1.24 mg/L	10 ml	1.24 mg/L 1	0.07	0.50	6	6/13/16 16:00	N	T
KQ1606456-19	Carbon, Total Organic	DUP	K1605983-001	Water	0.09 mg/L	10 ml	0.09 mg/L J 1	0.07	0.50	NC .	6/13/16 16:00	N	n
KQ1606456-20	Carbon, Total Organic	MS	K1606174-001	Water	27.43 mg/L	10 mi	27.4 mg/L 1	0.07	0.50 100	***********	6/13/16 16:00	N	II
KQ1606456-21	Carbon, Total Organic	DUP	K1606174-001	Water	2.36 mg/L	10 ml	2.36 mg/L 1	0.07	0.50	4	6/13/16 16:00	N	11
KQ1606456-22	Carbon, Total Organic	DUP	K1605768-001	Water	0.46 mg/L	10 mI	0.46 mg/L J 1	0.07	0.50	NC	6/13/16 16:00	N	I
KQ1606456-23	Carbon, Total Organic	DUP	K1605768-002	Water	0.37 mg/L	10 ml	0.37 mg/L J 1	0.07	0.50	NC	6/13/16 16:00	N	I
XQ1606456-24	Carbon, Total Organic	DUP	K1605768-003	Water	1.31 mg/L	10 ml	1.31 mg/L 1	0.07	0.50	3	6/13/16 16:00	N	I
KQ1606456-25	Carbon, Total Organic	MS	K1605914-032	Water	24.62 mg/L	10 ml	24.6 mg/L 1	0.07	0.50 98		6/13/16 16:00	N	IV
ζQ1606456-26	Carbon, Total Organic	DUP	K1605914-032	Water	0.11 mg/L	10 ml	0.11 mg/L J 1	0.07	0.50	26*	6/13/16 16:00	N	IV
XQ1606456-27	Carbon, Total Organic	DUP	K1606159-001	Water	0.13 mg/L	10 ml	0.13 mg/L J 1	0.07	0.50	61*	6/13/16 16:00	N	ΙVΙ
KQ1606456-28	Carbon, Total Organic	DUP	K1606159-002	Water	0.16 mg/L	10 ml	0.16 mg/L J 1	0.07	0.50	48*	6/13/16 16:00	N	IV
KQ1606456-29	Carbon, Total Organic	DUP	K1606042-001	Drinking Water	0.65 mg/L	10 ml	0.65 mg/L 1	0.07	0.50	7	6/13/16 16:00	N	n
KQ1606456-30	Carbon, Total Organic	MS	K1606048-001	Drinking Water	26.51 mg/L	10 ml	26.5 mg/L 1	0.07	0.50 101		6/13/16 16:00	N	II
XQ1606456-31	Carbon, Total Organic	DUP	K1606048-001	Drinking Water	1.14 mg/L	10 ml	1.14 mg/L 1	0.07	0.50	9	6/13/16 16:00	N	II.
KQ1606456-32	Carbon, Total Organic	DUP	K1606048-002	Drinking Water	1.23 mg/L	10 ml	1.23 mg/L 1	0.07	0.50	7	6/13/16 16:00	N	II
KQ1606456-33	Carbon, Total Organic	DUP	K1606048-003	Drinking Water	1.16 mg/L	10 ml	1.16 mg/L 1	0.07	0.50	<1	6/13/16 16:00	Ň	II
KQ1606456-34	Carbon, Total Organic	DUP	K1606103-002	Drinking Water	0.54 mg/L	10 ml	0.54 mg/L 1	0.07	0.50	18*	6/13/16 16:00	N	I
KQ1606456-35	Carbon, Total Organic	DUP	K1606195-002	Drinking Water	0.67 mg/L	I0 ml	0.67 mg/L 1	0.07	0.50	16*	6/13/16 16:00	N	I

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analyst: BHETLAND

Analysis Lot:

500689

Method/Testcode: SM 5310 C/TOC T

			•			5							1
<u>Lab Code</u> K1605935-001	<u>Target Analytes</u> Carbon, Total Organic	QC N/A	Parent Sample	Matrix Water	Raw Result 2.35 mg/L	Sample Amt. 10 ml	Final Result Dil 2.35 mg/L 1	MDL 0.07	PQL % R	ec % RSD	<u>Date Analyzed</u> 6/13/16 16:00	<u>QC?</u> I	<u>Γier</u> V
K1605935-002	Carbon, Total Organic	N/A		Water	26.91 mg/L		26.9 mg/L 1	0.07	0.50		6/13/16 16:00	N	$\mathbf{v}$
<1605935 <b>-</b> 003	Carbon, Total Organic	N/A		Water	32.10 mg/L	10 ml	32.1 mg/L 1	0.07	0.50		6/13/16 16:00	N	V
	Carbon, Total Organic	N/A		Water	33.61 mg/L	10 ml	67.2 mg/L 2	0.2	1.0		6/13/16 16:00	N	V
K1605935-005	Carbon, Total Organic	N/A		Water	8.13 mg/L	10 ml	81.3 mg/L 10	0.7	5.0		6/13/16 16:00	N	V
₹1605987-007	Carbon, Total Organic	N/A		Water	5.46 mg/L	10 ml	5.46 mg/L 1	0.07	0.50		6/13/16 16:00	N	П
<1606149-005	Carbon, Total Organic	N/A		Water	0.35 mg/L	10 ml	9 mg/L J 25	2	13		6/13/16 16:00	N	II
<1606149-007	Carbon, Total Organic	N/A		Water	0.85 mg/L	10 ml	1.7 mg/L 2	0.2	1.0		6/13/16 16:00	Y	II
X1606149-008	Carbon, Total Organic	N/A		Water	0.39 mg/L	10 ml	3.9 mg/L J 10	0.7	5.0		6/13/16 16:00	N	11
<1606160-001	- /	N/A		Water	3.06 mg/L	10 ml	3.06 mg/L 1	0.07	0.50		6/13/16 16:00	N	II
K1606160-002	Carbon, Total Organic	N/A		Water	6.78 mg/L	10 ml	13.6 mg/L 2	0.2	1.0		6/13/16 16:00	N	II
£1606160-003	Carbon, Total Organic	N/A		Water	9. <b>79</b> mg/L	10 ml	19.6 mg/L 2	0.2	1.0		6/13/16 16:00	N	II
<1606160-004	Carbon, Total Organic	N/A		Water	0.85 mg/L	10 ml	0.85 mg/L 1	0.07	0.50		6/13/16 16:00	N	11
<1606160-005	Carbon, Total Organic	N/A		Water	3.07 mg/L	10 ml	3.07 mg/L 1	0.07	0.50		6/13/16 16:00	N	II
£1606162-001	Carbon, Total Organic	N/A		Water	3.20 mg/L	10 ml	3.20 mg/L 1	0.07	0.50		6/13/16 16:00	N	n
K1606162-002	Carbon, Total Organic	N/A		Water	1.03 mg/L		1.03 mg/L 1	0.07	0.50		6/13/16 16:00	N	П
K1606162-003	Carbon, Total Organic	N/A		Water	7.96 mg/L		7.96 mg/L 1	0.07	0.50		6/13/16 16:00	N	n
<1606162-004	Carbon, Total Organic	N/A		Water	0.27 mg/L	10 ml	0.27 mg/L J 1	0.07	0.50		6/13/16 16:00	N	П
K1606237-004	Carbon, Total Organic	N/A		Water	1.27 mg/L		1.27 mg/L 1	0.07	0.50		6/13/16 16:00	N	II
₹1606238-001	Carbon, Total Organic	N/A		Water	0.20 mg/L	10 ml	2.0 mg/L J 10	0.7	5.0		6/13/16 16:00	N	Π
₹Q1606457-01	Carbon, Total Organic	MB		Water	0.00 mg/L	10 ml	0.50 mg/L U = 1	0.07	0.50		6/13/16 16:00	N	П
KQ1606457-02	Carbon, Total Organic	LCS		Water	23.93 mg/L		23.9 mg/L 1	0.07	0.50 10	)	6/13/16 16:00	N	II
KQ1606457-03	Carbon, Total Organic	CCV		Water	23.60 mg/L		23.6 mg/L 1				6/13/16 16:00	N	П
₹Q1606457-04	Carbon, Total Organic			Water	23.59 mg/L	10 ml	23.6 mg/L 1				6/13/16 16:00	N	П
₹Q1606457-05	Carbon, Total Organic	CCV		Water	23.80 mg/L		23.8 mg/L 1				6/13/16 16:00	N	II
<q1606457-06< td=""><td>Carbon, Total Organic</td><td>CCV</td><td></td><td>Water</td><td>23.77 mg/L</td><td>10 ml</td><td>23.8 mg/L 1</td><td></td><td></td><td></td><td>6/13/16 16:00</td><td>N</td><td>II</td></q1606457-06<>	Carbon, Total Organic	CCV		Water	23.77 mg/L	10 ml	23.8 mg/L 1				6/13/16 16:00	N	II
3Q1606457-07	Carbon, Total Organic	CCB		Water	0.02 mg/L	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	II
CQ1606457-08	Carbon, Total Organic	CCB		Water	3.199000000000001E	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	II
<q1606457-09< td=""><td>Carbon, Total Organic</td><td>CCB</td><td></td><td>Water</td><td>4.419000000000001E</td><td>10 1111</td><td>0.50 mg/L U 1</td><td>0.07</td><td>0.50</td><td></td><td>6/13/16 16:00</td><td>N</td><td>П</td></q1606457-09<>	Carbon, Total Organic	CCB		Water	4.419000000000001E	10 1111	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	П
₹Q1606457-10	Carbon, Total Organic	ССВ		Water	3.990000000000005E	10 ml	0.50 mg/L U 1	0.07	0.50		6/13/16 16:00	N	II
€Q1606457-11	Carbon, Total Organic	DUP	K1606149-005	Water	0.40 mg/L	10 m1	10 mg/L J 25	2	13	[4*	6/13/16 16:00	N	II
<q1606457-12< td=""><td>Carbon, Total Organic</td><td>MS</td><td>K1606149-007</td><td>Water</td><td>22.34 mg/L</td><td>10 ml</td><td>44.7 mg/L 2</td><td>0.2</td><td>1.0 86</td><td></td><td>6/13/16 16:00</td><td>$N^{3}$</td><td>II</td></q1606457-12<>	Carbon, Total Organic	MS	K1606149-007	Water	22.34 mg/L	10 ml	44.7 mg/L 2	0.2	1.0 86		6/13/16 16:00	$N^{3}$	II
⟨Q1606457-13	Carbon, Total Organic	DUP	K1606149-007	Water	0.81 mg/L	10 ml	1.6 mg/L 2	0.2	1.0	6	6/13/16 16:00	N	II
₹Q1606457-14	Carbon, Total Organic	DUP	K1606149-008	Water	0.27 mg/L	10 ml	2.7 mg/L J 10	0.7	5.0	35*	6/13/16 16:00	N	11
<q1606457-15< td=""><td>Carbon, Total Organic</td><td></td><td>K1605935-001</td><td>Water</td><td>27.68 mg/L</td><td>10 ml</td><td>27.7 mg/L 1</td><td>0.07</td><td>0.50 10</td><td></td><td>6/13/16 16:00</td><td>N</td><td>V</td></q1606457-15<>	Carbon, Total Organic		K1605935-001	Water	27.68 mg/L	10 ml	27.7 mg/L 1	0.07	0.50 10		6/13/16 16:00	N	V
₹Q1606457-16	Carbon, Total Organic	DUP	K1605935-001	Water	2.22 mg/L	10 ml	2.22 mg/L 1	0.07	0.50	6	6/13/16 16:00	N	V

t indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Page 1 of 2

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Lab Code	Target Analytes	<u>QC</u>	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result Dil	<u>MDL</u>	PQL % Rec	% RSD	Date Analyzed	QC? Ti	ier
KQ1606457-17	Carbon, Total Organic	DUP	K1605935-002	Water	26.74 mg/L	10 ml	26.7 mg/L 1	0.07	0.50	<1	6/13/16 16:00	N	V
KQ1606457-18	Carbon, Total Organic	DUP	K1605935-003	Water	31.46 mg/L	10 ml	31.5  mg/L 1	0.07	0.50	2	6/13/16 16:00	N	V
KQ1606457-19	Carbon, Total Organic	DUP	K1605935-004	Water	33.34 mg/L	10 ml	66.7 mg/L 2	0.2	1.0	<1	6/13/16 16:00	N	V
KQ1606457-20	Carbon, Total Organic	DUP	K1605935-005	Water	8.03 mg/L	10 ml	80.3 mg/L 10	0.7	5.0	1	6/13/16 16:00	N	V
KQ1606457-21	Carbon, Total Organic	MS	K1605987-007	Water	31.78 mg/L	10 ml	31.8 mg/L 1	0.07	0.50 105		6/13/16 16:00	N	П
KQ1606457-22	Carbon, Total Organic	DUP	K1605987-007	Water	5.33 mg/L	10 ml	5.33 mg/L 1	0.07	0.50	2	6/13/16 16:00	N	II
KQ1606457-23	Carbon, Total Organic	DUP	K1606237-004	Water	1.07 mg/L	10 ml	1.07 mg/L 1	0.07	0.50	17*	6/13/16 16:00	N	II
KQ1606457-24	Carbon, Total Organic	MS	K1606238-001	Water	19.83 mg/L	10 ml	198 mg/L 10	0.7	5.0 78*		6/13/16 16:00	N	$\Pi$
KQ1606457-25	Carbon, Total Organic	DUP	K1606238-001	Water	0.06 mg/L	10 ml	5.0 mg/L U 10	0.7	5.0	NC	6/13/16 16:00	N	п
KQ1606457-26	Carbon, Total Organic	MS	K1606160-001	Water	29.48 mg/L	10 ml	29.5 mg/L 1	0.07	0.50 106		6/13/16 16:00	N	П
KQ1606457-27	Carbon, Total Organic	DUP	K1606160-001	Water	2.90 mg/L	10 ml	2.90 mg/L 1	0.07	0.50	5	6/13/16 16:00	N	II
KQ1606457-28	Carbon, Total Organic	DUP	K1606160-002	Water	6.78 mg/L	10 ml	13.6 mg/L 2	0.2	1.0	<1	6/13/16 16:00	N	II
KQ1606457-29	Carbon, Total Organic	DUP	K1606160-003	Water	9.59 mg/L	10 ml	19.2 mg/L 2	0.2	1.0	2	6/13/16 16:00	N	II
KQ1606457-30	Carbon, Total Organic	DUP	K1606160-004	Water	0.79 mg/L	10 ml	0.79 mg/L 1	0.07	0.50	7	6/13/16 16:00	N	II
KQ1606457-31	Carbon, Total Organic	DUP	K1606160-005	Water	3.04 mg/L	10 ml	3.04 mg/L 1	0.07	0.50	1	6/13/16 16:00	N	11 6
KQ1606457-32	Carbon, Total Organic	DUP	K1606162-001	Water	3.10 mg/L	10 ml	3.10 mg/L 1	0.07	0.50	3	6/13/16 16:00	N	II
KQ1606457-33	Carbon, Total Organic	DUP	K1606162-002	Water	0.91 mg/L	10 ml	0.91 mg/L 1	0.07	0.50	12*	6/13/16 16:00	N	$\Pi \mid \mathcal{C}$
KQ1606457-34	Carbon, Total Organic	DUP	K1606162-003	Water	7.79 mg/L	10 ml	7.79 mg/L 1	0.07	0.50	2	6/13/16 16:00	N	II g
KQ1606457-35	Carbon, Total Organic	DUP	K1606162-004	Water	0.26 mg/L	10 m!	0.25 mg/L J 1	0.07	0.50	6	6/13/16 16:00	N	II

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analyst: BHETLAND

Analysis Lot:

500692

Method/Testcode: SM 5310 C/TOC T

															- 1
Lab Code	Target Analytes	$\underline{QC}$	Parent Sample	<u>Matrix</u>	Raw Result	Sample Amt.	Final Result	<u>Dil</u>	<u>MDL</u>	PQL 9	% Rec	% RSD	Date Analyzed	QC?	Tier
<1606223-001	Carbon, Total Organic	N/A		Water	1.52 mg/L	10 ml	1.52 mg/L	1	0.07	0.50			6/13/16 16:00	N	I
K1606223-002	Carbon, Total Organic	N/A		Water	1.73 mg/L	10 ml	1.73 mg/L	1	0.07	0.50			6/13/16 16:00	N	I
₹1606223-003	Carbon, Total Organic	N/A		Water	12.73 mg/L	10 ml	12.7 mg/L	1	0.07	0.50			6/13/16 16:00	N	I
K1606223-004	Carbon, Total Organic	N/A		Water	6.40 mg/L	10 ml	6.40 mg/L	1	0.07	0.50		······	6/13/16 16:00	N	I
ζ1606386-002	Carbon, Total Organic	N/A		Water	0.48 mg/L	10 ml	0.48 mg/L J	1	0.07	0.50			6/13/16 16:00	N	П
K1606386-008.R01	Carbon, Total Organic	N/A		Water	0.39 mg/L	10 ml	2.0 mg/L J	5	0.4	2.5			6/13/16 16:00	N	II
KQ1606459-01	Carbon, Total Organic	MB		Water	-0.01 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	N	I
KQ1606459-02	Carbon, Total Organic	LCS		Water	24.05 mg/L	10 ml	24.1 mg/L	1	0.07	0.50	100		6/13/16 16:00	N	Ĭ
KQ1606459-03	Carbon, Total Organic	CCV		Water	23.80 mg/L	10 ml	23.8 mg/L	1					6/13/16 16:00	N	I
KQ1606459-04	Carbon, Total Organic	CCV		Water	23.77 mg/L	10 ml	23.8 mg/L	1					6/13/16 16:00	N	I
XQ1606459-05	Carbon, Total Organic	CCV		Water	23.59 mg/L	10 ml	23.6 mg/L	1					6/13/16 16:00	N	I
KQ1606459-06	Carbon, Total Organic	CCB		Water	4.419000000000001E	10 ml	$0.50~\mathrm{mg/L}~\mathrm{U}$	1	0.07	0.50			6/13/16 16:00	N	I
KQ1606459-07	Carbon, Total Organic	ССВ		Water	3.99000000000005E	10 ml	0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	N	ī
≤Q1606459-08	Carbon, Total Organic	CCB		Water	1.68900000000001E	10 ml	0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	N	I
KQ1606459-09	Carbon, Total Organic	MS	K1606223-001	Water	26.77 mg/L	10 ml	26.8 mg/L	1	0.07	0.50	101		6/13/16 16:00	N	I
ζQ1606459-10	Carbon, Total Organic	DUP	K1606223-001	Water	1.42 mg/L	10 ml	1.42 mg/L	I	0.07	0.50		7	6/13/16 16:00	N	T
XQ1606459-11	Carbon, Total Organic	DUP	K1606223-002	Water	1.73 mg/L	10 ml	1.73 mg/L	1	0.07	0.50		<1	6/13/16 16:00	N	
KQ1606459-12	Carbon, Total Organic	DUP	K1606223-003	Water	12.48 mg/L	10 ml	12.5 mg/L	1	0.07	0.50		2	6/13/16 16:00	N	I
SQ1606459-13	Carbon, Total Organic	DUP	K1606223-004	Water	6.27 mg/L	10 ml	6.27 mg/L	1	0.07	0.50		2	6/13/16 16:00	N	I
≲Q1606459-14	Carbon, Total Organic	MS	K1606386-002	Water	25.36 mg/L	10 ml	25.4 mg/L	1	0.07	0.50	100		6/13/16 16:00	N	II L
KQ1606459-15	Carbon, Total Organic	DUP	K1606386-002	Water	0.45 mg/L	10 ml	0.45 mg/L J	1	0.07	0.50		6	6/13/16 16:00	N	П
KQ1606459-16	Carbon, Total Organic	DUP	K1606386-008	Water	0.18 mg/L	10 ml	0.9 mg/L J	5	0.4	2.5		74*	6/13/16 16:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

#### ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
СВА	RB	1		0.7207	-0.7207	-0.72071	< 0.5	
2	CCV1	1	24.800	0,7207	24.0791	24.07909	24.1	%Rec=96
3	CCB1	1	0.639	0.7207	-0.0822	-0.08221	<0.5	
4	MB1	I	0.638	0.7207	-0.0831	-0.08311	< 0.5	
5	LCS1	1	24.944	0.7207	24.2234	24.22339	24.2	
6	ics	***	1.041	0.7207	0.3198	0.31979	<0.5	
7	k1605750-002	1	10.793	0.7207	10.0721	10.07209	10.1	
8	5750-2d	1	10.670	0.7207	9.9497	9.94969	10	,
9	5750-2ms	1	37.091	0.7207	36.3698	36.36979	36	
10	k1605750-003	1	11.016	0.7207	10.2956	10.29559	10.3	
11	5750-3d	1	10.436	0.7207	9.7155	9.71549	9.7	
12	k1605750-004	1	10.801	0.7207	10.0801	10.08009	10	
13	5750-4d	1	10.537	0.7207	9.8165	9.81649	9.8	
14	k1605750-005	1 .	8.198	0.7207	7.4777	7.47769	7.5	
15	5750-5d	1	7.977	0.7207	7.2564	7.25639	7.3	
16	k1605975-001	1	2.234	0.7207	1.5128	1.51279	1.5	
17	5975-1d	. 1	2.200	0.7207	1.4791	1.47909	1.5	
18	5975-1ms	1	27.686	0.7207	26.9653	26.96529	27.0	
19	ccv2	1	24.842	0.7207	24.1217	24.12169	24.1	%rec=96
20	ecb2	1	0.773	0.7207	0.0520	0.05199	< 0.5	
21	k1605975-002	1	2.039	0.7207	1.3186	1.31859	1.3	
22	5975-2d	1	1.959	0.7207	1.2382	1.23819	1.2	
23	k1605983-001	1	0.816	0.7207	0.0949	0.09489	<0.5	
24	5983-1d	1	0.813	0.7207	0.0923	0.09229	<0.5	
25	k1606174-001	1	3.190	0.7207	2.4694	2.46939	2.5	

ICAL Date 10/13/15 ICAL ID#:11-GEN-05-43I

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-48K)

CCV = 25.0 ppm (Ref.#11-GEN-05-480)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-49C)

ics tv = 25.0mg/L %Rec=1			
		date	time
Analyzed By: 6 Lutu	Date Analyzed	6/13/2016	16:00:00
Reviewed By:	Date Reviewed	tolialle	

Revision 1, 2010 R:\WET\ANALYSES\TOC\TEMPLATE\TOCwaterLIMS

## Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	6174-1d	1	3.082	0.7207	2.3608	2.36079	2.36	
27	6174-1ms	1	28.150	0.7207	27.4288	27.42879	27.4	
28	k1605768-001	1	1.202	0.7207	0.4815	0.48149	< 0.5	
29	5768-1d	1	1.180	0.7207	0.4593	0.45929	< 0.5	
30	k1605768-002	1	1.092	0.7207	0.3708	0.37079	< 0.5	
31	5768-2d	1	1.091	0.7207	0.3703	0.37029	< 0.5	
32	k1605768-003	1	1.992	0.7207	1.2710	1.27099	1.27	THE STATE OF THE S
33	5768-3d	1	2.030	0.7207	1.3091	1.30909	1.3	
34	k1605914-032	1	0.866	0.7207	0.1456	0.14559	< 0.5	
35	5914-32d	1	0.833	0.7207	0.1120	0.11199	<0.5	1
. 36	5914-32ms	1	25.341	0.7207	24.6199	24.61989	24.62	****
37	k1606159-001	1	0.967	0.7207	0.2464	0.24639	< 0.5	30.00 A A A A A A A A A A A A A A A A A A
38	6159-1d	1	0.852	0.7207	0.1308	0.13079	< 0.5	
39	cev3	1	24.394	0.7207	23.6737	23.67369	23.67	%Rec=95
40	ссь3	1	0,702	0.7207	-0.0184	-0.01841	<0.5	:
41	mb2	1	0.714	0.7207	-0.0066	-0.00661	< 0.5	
42	lcs2	1	24.774	0.7207	24.0529	24.05289	24.05	
43	k1606159-002	1	0.979	0.7207	0.2584	0.25839	< 0.5	
44	6159-2d	1	0.879	0.7207	0.1581	0.15809	< 0.5	
45	k1606042-001	1	1.419	0,7207	0.6987	0.69869	0.70	***************************************
46	6042-1d	1	1.375	0.7207	0.6542	0.65419	0.65	
47	k1606048-001	1	1.967	0,7207	1.2462	1.24619	1.25	
48	6048-1d	1	1.864	0.7207	1.1436	1.14359	1.14	
49	6048-1ms	1	27.230	0.7207	26.5094	26.50939	26.51	
50	k1606048-002	1	2.043	0.7207	1.3225	1.32249	1.32	

Reviewed By: Date Reviewed	Analyzed By: 3		Date Analyzed	6.13.16
Reviewed By: Date Reviewed		A 5		, ( , (
	Reviewed By:			

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Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	The state of the s
51	6048-2d	1	1.950	0.7207	1.2291	1.22909	1.23	
52	k1606048-003	1	1.884	0.7207	1.1633	1.16329	1.2	
53	6048-3d	1	1.881	0.7207	1.1598	1.15979	1,2	1
54	k1606103-002	1	1.365	0.7207	0.6442	0.64419	0.6	
55	6103-2d	1	1.261	0.7207	0.5401	0.54009	0.5	
56	k1606195-002	. 1	1.505	0.7207	0.7841	0.78409	0.8	
57	6195-2d	1	1.389	0.7207	0.6680	0.66799	0.7	
58	cev4	1	24.320	0.7207	23.5993	23.59929	23.6	]%Rec=94
59	ccb4	1	0.738	0.7207	0.0172	0.01719	<0.5	
60	k1606149-005	25	1.069	0.7207	0.3483	8.70725	8.7	
61	6149-5d	25 .	1.121	0.7207	0.4005	10.01225	10.0	
62	k1606149-007	2	1.576	0.7207	0.8548	1.70958	1.7	d.
63	6149-7d	2	1.528	0.7207	0.8074	1.61478	1.6	
64	6149-7ms	2	23.057	0.7207	22.3367	44.67338	44.7	
65	k1606149-008	10	1,108	0.7207	0.3875	3.8749	3.9	12.
66	6149-8d	10	0.994	0.7207	0.2728	2.7279	2.7	
67	k1605935-001	1	3.072	0.7207	2.3515	2.35149	2.4	1
68	5935-1d	1	2.946	0.7207	2.2249	2.22489	2.2	
69	5935-1ms	I.	28.403	0.7207	27.6827	27.68269	27.7	
70	k1605935-002	1	27,631	0.7207	26.9103	26.91029	26.9	
71	5935-2d	1	27.462	0.7207	26.7412	26.74119	26.7	
72	k1605935-003	1	32.825	0.7207	32.1041	32.10409	32.1	
73	5935-3d	1	32.177	0.7207	31.4558	31.45579	31.5	
74	k1605935-004	2	34.331	0.7207	33.6098	67.21958	67.2	
75	5935-4d	2	34.059	0.7207	33.3384	66.67678	66.7	

alyzed By: B. North	Date Analyzed 6/13/16
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Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
76	ccv5	1	24,312	0.7207	23.5912	23.59119	23.6	%Rec=94
77	ccb5	1	0.753	0.7207	0.0320	0.03199	<0.5	
78	mb3	1	0.720	0.7207	-0.0011	-0.00111	< 0.5	
79	lcs3	1	24.649	0.7207	23.9279	23.92789	23.93	
80	k1605935-005	10	8.855	0.7207	8.1339	81.3389	81.34	
81	5935-5d	10	8.755	0.7207	8.0347	80.3469	80.3	
82	k1605987-007	1	6.184	0.7207	5.4631	5,46309	5.46	
83	5987-7d	ĺ	6.052	0.7207	5.3312	5,33119	5.33	
84	5987-7ms	1	32.506	0.7207	31.7848	31.78479	31.78	
85	k1606237-004	1	1.990	0.7207	1.2691	1.26909	1.27	
86	6237-4d	I	1.795	0.7207	1.0738	1.07379	1.07	
87	k1606238-001	10	0.924	0.7207	0.2029	2.0289	2.0	
88	6238-1d	10	0.781	0.7207	0.0607	0.6069	0.6	
89	6238-1ms	10	20.546	0.7207	19.8251	198.2509	198.3	
90	k1606160-001	1	3.777	0.7207	3.0563	3.05629	3.1	
91	6160-1d	<b>5</b>	3.618	0.7207	2.8970	2.89699	2.9	
92	6160-1ms	1	30.200	0.7207	29.4789	29.47889	29.5	
93	ccv6	1	24.520	0.7207	23.7989	23.79889	23.8	%Rec=95
94	ceb6	1	0.765	0.7207	0.0442	0.04419	< 0.5	
95	الماليسيدين يسبب	and the second second		0.7207	-0.7207	-0.72071	<b></b> <0.5	
96		1		0.7207	-0.7207	0.72071	<0.5	
97		1		Q.7207	-0.7207	-0.72071	<0.5	
98		1	The state of the s	0.7207	-0.7207	-0.72071	<0.5	
99	- Anna Caralla	1		0.7207	-0.7207	-0.72071	<0.5	
100		1		0.7207	-0.7207	-0.72071	<u></u>	

Analyzed by: 5. 12.	Wy.	Date Analyzed	6.13.16	•
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Reviewed By:	The state of the s	Date Reviewed	6/16/1	16

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
СВА	RB	1		0.7207	-0.7207	-0.72071	< 0.5	
2	ccv6	1	24.520	0.7207	23.7989	23.79889	23.8	%Rec=95
3	ccb6	I	0.765	0.7207	0.0442	0.04419	<0.5	
4	k1606160-002	2	7.499	0.7207	6.7782	13.55638	13.6	
5	6160-2d	2	7.502	0.7207	6.7810	13.56198	13.6	
6	k1606160-003	2	10.512	0.7207	9.7908	19.58158	19.6	
7	6160-3d	2	10.307	0.7207	9.5863	19.17258	19.2	
8	k1606160-004	1	1.566	0.7207	0.8455	0.84549	1	
9	6160-4d	1	1.513	0.7207	0.7922	0.79219	1	
10	k1606160-005	1	3.788	0.7207	3.0670	3.06699	3.1	
1.1	6160-5	1	3.756	0.7207	3.0351	3.03509	3.0	
12	k1606162-001	1	3.924	0.7207	3.2037	3.20369	3	
13	6162-1d	1	3.821	0.7207	3.1006	3.10059	3,1	
14	k1606162-002	1	1.746	0.7207	1.0253	1.02529	1.0	
15	6162-2d	1	1.628	0.7207	0.9075	0.90749	0.9	
16	k1606162-003	1	8.676	0.7207	7.9554	7.95539	8.0	
17	6162-3d	1	8.511	0.7207	7.7907	7.79069	7.8	
18	k1606162-004	1	0,991	0.7207	0.2703	0.27029	< 0.5	
19	6162-4d	1	0.976	0.7207	0.2550	0.25499	< 0.5	
20	k1606223-001	1	2.245	0.7207	1.5247	1.52469	1.5	
21	6223-1d	1.	2.138	0.7207	1.4172	1.41719	1.4	
22	6223-1ms	1	27.495	0.7207	26.7738	26.77379	26.8	
23	ccv7	1	24.492	0.7207	23.7717	23.77169	23.8	%Rec=95
24	ccb7	1	0.725	0.7207	0.0040	0.00399	< 0.5	
25	k1606223-002	1	2.449	0.7207	1.7278	1.72779	1.7	

ICAL Date 10/13/15 ICAL ID#:11-GEN-05-43I

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-48K)

CCV = 25.0 ppm (Ref. #11-GEN-05-480)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-49C)

			date	time
Analyzed By: B. W	the	Date Analyzed	6/13/2016	16:00:00
Reviewed By:	4	Date Reviewed	to Holl	

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#### Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	6223-2d	1	2.454	0.7207	1.7336	1.73359	1.73	
27	lcs4	1	24,690	0.7207	23.9689	23.96889	24.0	
28	k1606223-003	1	13.454	0.7207	12.7337	12.73369	12.7	
29	6223-3d	1	13.202	0.7207	12,4809	12.48089	12.5	
30	k1606223-004	1	7.120	0.7207	6.3995	6.39949	6.4	
31	6223-4d	1	6.990	0.7207	6.2690	6.26899	6.27	
. 32	k1606386-002	1	1.196	0.7207	0.4754	0.47539	< 0.5	
33	6386-2d	1	1.168	0.7207	0.4472	0.44719	<0.5	
34	6386-2ms	1	26.084	0.7207	25.3631	25.36309	25.36	
35	k1606386-008	5	1.112	0.7207	0.3913	1.95645	1.96 nr	
36	6386-8d	5	0.901	0.7207	0.1801	0.90045	0.90 nr	
37	cev8	1	24.307	0.7207	23.5860	23.58599	23.59	%Rec=94
38	ccb8	. 1	0.738	0.7207	0.0169	0.01689	< 0.5	
39	And the second filter of Commission of State of	1	raping and the first and the f	0.7207	-0.7207	-0.72071	≥0.5	
40		1		0.7207	-0.7207	-0.72071	<0.5	
41		1		0.7207	-0.7207	-0.72071	<0.5	
42		1		0.7207	-0.7207	-0.72071	<0.5	
43		. 1		0.7207	-0.7207	-0.72071	< 0.5	
44		1	and the state of t	0.7207	-0.7207	-0.72071	<0.5	
45		1	and the second s	0.7207	-0.7207	-0.72071	<0.5	
46		1	^	0.7207	-0.7207	-0.72071	< 0.5	
47		1		0.7207	-0.7207	-0.72071	< 0.5	
48		1		0.7207	-0.7207	-0.72071	<0.5	
49		i		0.7207	-0.7207	-0.72071	<0.5	
50	And the state of t	I		0.7207	-0.7207	-0.72071	<0.5	

Analyzed By:	B. Ketler		Date Analyzed	6.13.16	
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Reviewed By:			Date Reviewed	<u> </u>	

# **Analytical Results Summary**

Instrument Name: K-TOC-01 Analyst: BHETLAND Analysis Lot: 500693 Method/Testcode: SM 5310 C/TOC D

<u>Lab Code</u> K1605940-001	Target Analytes QC Carbon, Dissolved Organic N/A	Parent Sample	Matrix Surface	Raw Result 1.78 mg/L		Final Result 1.78 mg/L		MDL 0.07	<u>PQL</u> 0.50	% Rec	% RSD	<u>Date Analyzed</u> 6/13/16 16:00	<u>QC?</u> ]	<u>Tier</u>	ļ
K1605940-002	(DOC) Carbon, Dissolved Organic N/A (DOC)		Water Surface Water	1.75 mg/L		1.75 mg/L		0.07	0.50			6/13/16 16:00	N	v	
K1606150-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	1.35 mg/L	, 10 ml	1.35 mg/L	1	0.07	. 0.50			6/13/16 16:00	N	V	ı
K1606150-002	Carbon, Dissolved Organic N/A (DOC)		Surface Water	3.189000000000001E		0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	N	V	_
K1606150-003	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.99 mg/L	, 10 ml	2.99 mg/L	1	0.07	0.50			6/13/16 16:00	N	V	
K1606150-004	Carbon, Dissolved Organic N/A (DOC)		Surface Water	3.05 mg/L	. 10 ml	3.05  mg/L	1	0.07	0.50			6/13/16 16:00	N	V	
K1606150-005	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.95 mg/L	. 10 ml	2.95 mg/L	1.	0.07	0.50			6/13/16 16:00	N	V	_
K1606228-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.72 mg/L	, 10 ml	2.72 mg/L	1	0.07	0.50			6/13/16 16:00	N	V	
K1606228-002	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.64 mg/L	. 10 ml	2.64 mg/L	1	0.07	0.50			6/13/16 16:00	N	V	
K1606404-001	Carbon, Dissolved Organic N/A (DOC)		Surface Water	2.62 mg/L	. 10 mI	2.62 mg/L	1	0.07	0.50	***************************************		6/13/16 16:00	Y	V	140
KQ1606460-01	Carbon, Dissolved Organic MB (DOC)		Surface Water	0.00 mg/L	, 10 ml	0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	'N	V	of
KQ1606460-02	Carbon, Dissolved Organic LCS (DOC)		Surface Water	23.93 mg/L	, 10 ml	23.9 mg/L	1	0.07	0.50	100		6/13/16 16:00	N	- 1	e 106
KQ1606460-03	Carbon, Dissolved Organic CCV (DOC)		Surface Water	23.77 mg/L	. 10 ml	23.8 mg/L	1	***************************************				6/13/16 16:00	N	V	Page
KQ1606460-04	Carbon, Dissolved Organic CCV (DOC)		Surface Water	23.59 mg/L	, 10 ml	23.6 mg/L	1					6/13/16 16:00	N	V	
KQ1606460-05	Carbon, Dissolved Organic CCV (DOC)		Surface Water	23.35 mg/L	, 10 ml	23.3 mg/L	1					6/13/16 16:00	N	V	
KQ1606460-06	Carbon, Dissolved Organic CCB (DOC)		Surface Water	3.990000000000005E	10 ml	0.50 mg/L U	1	0.07	0.50			6/13/16 16:00	N	V	_
KQ1606460-07	Carbon, Dissolved Organic CCB (DOC)		Surface Water	1.689000000000001E	10 ml	0.50 mg/L U	Meesel	0.07	0.50			6/13/16 16:00	N	V	
KQ1606460-08	Carbon, Dissolved Organic CCB (DOC)		Surface Water	-0.04 mg/L	, 10 ml	0.50 mg/L U	I	0.07	0.50			6/13/16 16:00	N	V	
KQ1606460-09	Carbon, Dissolved Organic MS (DOC)	K1606404-001	Surface Water	27.79 mg/L	. 10 ml	27.8 mg/L	I	0.07	0.50	101		6/13/16 16:00	N	V	
KQ1606460-10	Carbon, Dissolved Organic DMS (DOC)	K1606404-001	Surface Water	27.85 mg/L	. 10 ml	27.8 mg/L	1	0.07	0.50	101	<1	6/13/16 16:00	N	V	
KQ1606460-11	Carbon, Dissolved Organic DUP (DOC)	K1606404-001	Surface Water	2.55 mg/L	, 10 ml	2.55 mg/L	1	0.07	0.50		3	6/13/16 16:00	N	V	
KQ1606460-12	Carbon, Dissolved Organic DUP (DOC)	K1605940-001	Surface Water	1.64 mg/L	. 10 ml	1.64 mg/L	1	0.07	0.50		8	6/13/16 16:00	N	V	-
KQ1606460-13	Carbon, Dissolved Organic DUP (DOC)	K1605940-002	Surface Water	1.81 mg/L	, 10 ml	1.81 mg/L	1	0.07	0.50		3	6/13/16 16:00	N	V	

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

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# **Analytical Results Summary**

Instrument Name: K-TOC-01 Analyst: BHETLAND Analysis Lot: 500693 Method/Testcode: SM 5310 C/TOC D

<u>Lab Code</u> KQ1606460-14	Target Analytes QC Carbon, Dissolved Organic DUP (DOC)	Parent Sample K1606150-001	Matrix Surface Water	Raw Result 1.26 mg/L	Sample Amt. 10 ml	Final Result Dil 1.26 mg/L 1	MDL 0.07	PQL % Rec 0.50	% RSD 7	Date Analyzed 6/13/16 16:00	OC?	Tier V
KQ1606460-15	Carbon, Dissolved Organic DUP (DOC)	K1606150-002	Surface Water	0.02 mg/L	I0 ml	0.50 mg/L U 1	0.07	0.50	NC	6/13/16 16:00	N	V
KQ1606460-16	Carbon, Dissolved Organic DUP (DOC)	K1606150-003	Surface Water	2.96 mg/L	10 ml	2.96 mg/L 1	0.07	0.50	1	6/13/16 16:00	N	V
KQ1606460-17	Carbon, Dissolved Organic DUP (DOC)	K1606150-004	Surface Water	2.96 mg/L	10 ml	2.96 mg/L 1	0.07	0.50	3	6/13/16 16:00	N	V
KQ1606460-18	Carbon, Dissolved Organic DUP (DOC)	K1606150-005	Surface Water	2.94 mg/L	10 ml	2.94 mg/L 1	0.07	0.50	<1	6/13/16 16:00	N	V
KQ1606460-19	Carbon, Dissolved Organic DUP (DOC)	K1606228-001	Surface Water	2.70 mg/L	10 mI	2.70 mg/L 1	0.07	0.50	1	6/13/16 16:00	N	V
KQ1606460-20	Carbon, Dissolved Organic DUP (DOC)	K1606228-002	Surface Water	2.53 mg/L	10 ml	2.53 mg/L 1	0.07	0.50	4	6/13/16 16:00	N	V

Matrix: WATER

Analysis: Total Organic Carbon (WATER)

Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
СВА	RB	1		0.7207	-0.7207	-0.72071	<0.5	
2	mb3	1	0.720	0.7207	-0.0011	-0.00111	<0.5	
3	les3	1	24.649	0.7207	23.9279	23.92789	23.9	
4	cev7	1	24.492	0.7207	23.7717	23.77169	23.8	%Rec=95
5	. ccb7	1	0.725	0.7207	0.0040	0.00399	< 0.5	
6	k1606404-001	1	3.339	0.7207	2.6186	2.61859	2.6	
7	6404-1d	1	3.271	0.7207	2.5503	2.55029	2.6	
8	6404-1ms	1	28.511	0.7207	27.7904	27.79039	28	
9	6404-1msd	1	28.569	0.7207	27.8486	27.84859	28	·
10	k1605940-001	1	2.500	0.7207	1.7789	1.77889	1.8	
11	5940-1d	1	2,363	0.7207	1.6419	1.64189	1.6	
12	ccv8	1	24.307	0.7207	23.5860	23.58599	23.6	%Rec=94
13	ccb8	1	0.738	0.7207	0.0169	0.01689	< 0.5	
14	k1605940-002	1	2.470	0.7207	1.7495	1.74949	1.7	
15	5940-2d	]	2.528	0.7207	1.8072	1.80719	1.8	
16	k1606150-001	1	2.066	0.7207	1.3456	1.34559	1.3	
17	6150-1d	1	1.979	0.7207	1.2587	1.25869	1.3	
18	k1606150-002	1	0.753	0.7207	0.0319	0.03189	< 0.5	
19	6150-2d	1	0.741	0.7207	0.0204	0,02039	<0.5	
20	k1606150-003	1 -	3.715	0.7207	2.9940	2.99399	3.0	
21	6150-3d	1	3.680	0.7207	2.9592	2.95919	3.0	
22	k1606150-004	1	3.774	0.7207	3.0533	3.05329	3.1	
23	6150-4d	1	3.680	0.7207	2.9590	2.95899	3.0	
. 24	k1606150-005	1	3.670	0.7207	2.9497	2.94969	2.9	
25	6150-5d	1	3.657	0.7207	2.9364	2.93639	2.9	

ICAL Date 10/13/15 ICAL ID#:11-GEN-05-43I

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-48K)

CCV = 25.0 ppm (Ref.#11-GEN-05-480)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-49C)

			date	time
Analyzed By:	BILLAL	Date Analyzed	6/13/2016	16:00:00
			1 / 1/2	
Reviewed By:		Date Reviewed	10/16/16	

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#### Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	k1606228-001	1	3.445	0.7207	2.7245	2.72449	2.72	
27	6228-1d	1	3.418	0.7207	2.6968	2.69679	2.7	
28	k1606228-002	1	3.361	0.7207	2,6400	2.63999	2.6	
29	6228-2d	1	3.253	0.7207	2.5326	2.53259	2.5	
30	eev9	1	24.067	0.7207	23.3462	23.34619	23.3	%Rec=93
31	ccb9	1	0.677	0.7207	-0.0439	-0.04391	<0.5	
32	* Marinant substitution and a su	annimental montestration	тамия по се нетойну ну кому буд билитейн осе учтом до добого.	0.7207	-0.7207	-0.72071	<0.5	>
33		1		0.7207	-0.7207	-0.72071	<0,5	
34		. 1		0.7207	-0.7207	-0.72071	0.5>سرر	
35		1		0.7207	-0.7207	-0.72071	< 0.5	
36		1		0.7207	-0.7207	-9: <del>7</del> 2071	< 0.5	
37		1		0.7207	-0.7207	-0.72071	< 0.5	
38		1		0.7207	-0 <i>,72</i> 07	-0.72071	<0.5	
39		1		0.7207	-0.7207	-0.72071	< 0.5	
40		I		0.7207	-0.7207	-0.72071	<0.5	
41		1		0:7207	-0.7207	-0.72071	< 0.5	
42		1	, and a second	0.7207	-0.7207	-0.72071	< 0.5	
43		1	A THE WAR AND A SHARE	0.7207	-0.7207	-0.72071	<0.5	
44		1	_{per} and the second se	0.7207	-0.7207	-0.72071	<0.5	
45		1	3. Percent of the second of th	0.7207	-0.7207	-0.72071	< 0.5	
46				0.7207	-0.7207	-0.72071	<0.5	
47	and the second s	1		0.7207	-0.7207	-0.72071	<0.5	
48	part and the second	1		0.7207	-0.7207	-0.72071	<0.5	
49	Appendix and a second s	1		0.7207	-0.7207	-0.72071	< 0.5	radional (Whitesphila) altrochum y.
50	Lamonaum			annimina de descripto de la françación de la constitución de la consti	0.7207	-0.72071	< 0.5	

Analyzed By: 6, WW	Date Analyzed	6.13.16
	·	
Reviewed By:	Date Reviewed	

JOC 500689 J 506692 DOC 500693

**Schedule: 061316** 

Version: 8

Instrument: Fusion1

Last Saved by: Fusion1 (Fusion1)

Last Saved on: 2016/06/13 15:53 - Monday

would have the transfer	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	* 1 * * g + 1 * * * * * * * * * * * * * * * * * *	Clean	**************************************	M Name of the second		Done
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	<u>Craniuliusiii</u>	Clean			lästä, .a	Done 🖁
	Clean	Clean		П.,,,,		Done
	Blank	Reagent/Acid Blank		J.i.	True	Done :
		[TOC] CCB [0 ppm]	to an arrange of the control of the	1		Running
		[TOC] CCV 25 ppm [25 ppm] :		Man	AND ROBERT CONTRACTOR	Pending
and the delice processing.	COLOR OF THE SECTION OF THE PROPERTY OF THE PROPERTY.	[[TOC] CCB [0 ppm]	CAS san 010711 (CAS sen 010711)	1		Ready_
	Sample				committee to	Feady
· · · Ayerelanys's saute:		[TOC] LGS [24.0 ppm]	CAS_sait_010711 (CAS_sait_010711)	1	AND 1 1 9 11	Assidy_
	Sample		CAS_salt_010711 (CAS_salt_01071))	g ine		[Ready]
	Sample	[K1605750-002.02	CAS_salt_0:10711 (CAS_salt_0:10711)	2		Ready
	Sample [3]	K1605750-002.02ms	CAS_salt 010711 (CAS_salt_010711)	3 000000		[Ready ]
	Sample	K1606750-003.02 	CAS salt 010711 (CAS salt 010711)	24   5488699999		Ready
a anaras minari assista	Sampellilli	K 1605 750-2004 02 TTTTESTER	(CAS_sait_010711)(CAS_sait_010711)	Carrier Carrier		Ready
· · · · · · · · · · · · · · · · · · ·	Sample	K1605750-005.02  Barbaras Mararilli		6		Ready
- · · · · · · · · · · · · · · · · · · ·	Sample	K 1605975-001.01	CAS_salt_010711 (CAS_salt_01071]	¥ 3503	· · · · · · · · · ·	Ready
· · · tratatatenten	Sample	K1605975-001.01ms	CAS_salt_010711 (CAS_salt_010711)			Ready
	and a first contracting a contracting process and a contracting and a significant contraction and	TOCI CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)			Ready
THE PERSONNELLINGS	and the contract of the contra	[TOC] CCB [0 ppm]	,			Ready
· · · · · · · · · · · · · · · · · · ·		[K16059754002.01	CAS salt_01071 (CAS_salt_01071)	K. Milai	**** * * * * * *	Ready
-w · nenegogappppppp	Sample Sample	K1606174-001.01	CAS_salt_010711 (CAS_salt_010711)			Ready
and a comment of the state of t			CAS sait 01071] (CAS sait 0107] 1) CAS sait 010711 (CAS sait 010711)			Ready
· · · · · · · · · · · · · · · · · · ·	Sample Sample liit (###################################	K 1605768-001.05	CAS_salt_010711 (CAS_salt_010711)	li Diene		Ready
and the second second		A				Ready
	Sample III II III	:K1605768-002,04 %K1605768-003,02	CAS_sait_010711 (CAS_sait_010711)  CAS_sait_010711 (CAS_sait_010711)	Z Z		Ready
··· · · · · · · · · · · · · · · · · ·	Sample Sample	K1605914-032.03		King		Ready
	Sample TITTI	K1605914-032.03ms	CAS sait 010711 (CAS sait 010711) CAS sait 010711 (CAS sait 010711)		222.000 000 00	Ready
	Sample	K1606159-001.01	CAS_salt_010711 (CAS_salt_010711)		. iii	Readyl
· · · · · · · · · · · · · · · · · · ·		[TOC] CCV 25 ppm [25 <b>ppm]</b>	CAS_salt_010711 (CAS_salt_010711)	2 4 KE		jReady -Ready∄
eralevazieidde?.		i[TOG] GGB (0 ppm)	CAS_salt_010711 (CAS_salt_010711)			the second second
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· · · heading become	and the second of the second s	[TOC] LCS (24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)		december of the	Ready
· · · · · · · · · · · · · · · · · · ·	Sample [1] [1][1][1]	K 1906 159-002 Ot	CAS_satt_010711	2, 11101113	11 1 - 191 - 1 199	Ready
Augmentigating.	Sample	(^.10901937002.01	CAS_sait_010711 (CAS_sait_010711)	5.000		Ready
	Sample	K1606048-001.01	CAS sait 0107111(CAS) sait 0107111	4 w		Ready
	Sample	IK 1606048-001.01	CAS_sait_010711 (CAS_sait_010711)			Ready
: Limagrapaongi	Sample III III	K1606048-002.01 IIII	CAS_saft_010711 (CAS_saft_010711)	1		Ready  Ready
and the second second		:K1606048-003.01	terror transfer to the contract of the contrac	2 25	A RESTRICTED AND ADDRESS.	gan aran ra ra E a gua
The Company of the Control of Con-	Sample (1997)	K1606103-002.02	CAS_salt_0107111 (CAS_salt_010711)	5		Ready Ready
		K1606195-002.03	, a a a a a a 7, 7, a a a a 7, 7, a a a a	2		Ready
	~~~	And the state of t		4		
		OU CCV 25 ppm 25 ppm TOC CCB	CAS_sait_010711 (CAS_sait_010711)	4		Ready Ready
	Sample	K1606149-005.05 25x	CAS_salt_010711 (CAS_salt_010711)	7		Ready :
			CAS salt 010711 (CAS salt 010711)	0	transport to the second	the second of the
and the sum of the supplemental of the	Sample #####	K1606149-007.05ms 2x 1	CAS_salt_010711 (CAS_salt_010711)			Ready Ready
	Sample	Paris	CAS salt 010711 (CAS salt 010711)			
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and the configuration of	Sample (1) (1)	K1605935-002.02 # #######	CAS_salt_010711 (CAS_salt_010711)			Ready
er er entremating.		N 1600-935-002-02 K 1605935-003.02	CAS_sait_010711 (CAS_sait_010711)	2		
and the second second section is	Sample USEE	K 1605935-004.02 2x 1112	***************************************	2 11		Ready Ready
		renousus-our zammentamen iri	CAS_sait_010711 (CAS_sait_010711)			rseauy Ready
	V011121V	* M	CHROTORETARION ELECTRON DON'S CHOULT !	***	13 USC	: wady

Page 1

Schedule: 061316

Check Standard	n is	Sample Type	Sample ID	Method ID (Calibration ID) Rep	s Use	State
CAS Salt 010711	(Check Standard	[TOC: CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711) 1	True	Ready
A		Sample . 🖺	MB3 T MUSEUM	CAS_salt_010711 (CAS_salt_010711) 11图	True	Ready
A2	17	Check Standard	/(TOG) LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711) [1	True	Ready
Sample		Sample	K1605935-005.02 110	CAS [salt 101071] (CAS [salt 10107] 1) 12 1	Hilline	Ready
Additional	1010	Sample	[K1605987-007.03	CAS self_010711 (CAS_salf_010711) 2	True	Ready
A5		Sample IIIIIIII	K1605987 007 03ms	CAS sait 010711 CAS sait 010771) 115	Tille.	[Ready]
A5	1	Sample	K1606237-004.09	CAS_sait_010711 (CAS_sait_010711) 2	True	Ready
A7		Sample # 1947	K1606238-001.04-10x		i jrue	Ready
Sample		Sample	K1606238-001.04ms 10x	GAS_salt_010711 (CAS_salt_010711) [1	True	Ready
B	m.	Sample III III	K1606160-001.02 T PERE	CAS_salt_010711 (CAS_salt_010711) 2	True	Ready
B	2 America	Sample	K1606160-001.02ms	CAS_sait_010711 (CAS_sait_010711) 1	True	Ready
Check Standard FOC CCB D pm CAS salt D10711 CAS	Mi	Check Standard	TTOC CCV 25 ppm [25 mm]	CAS salt_010711 (CAS_salt_010711) 1	III True	Ready
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61 Sample K1606223-004.01 CAS salt 010711 (CAS salt 010711) 2 62 Sample K1606386-002.09 CAS salt 0107] 1 (CAS salt 010711) 2 63 Sample K1606386-002.09 CAS salt 010711 (CAS salt 010711) 1 64 Sample K1606386-002.09 SX CAS salt 010711 (CAS salt 010711) 1 65 Sample K1606386-002.09 SX CAS salt 010711 (CAS salt 010711) 2 65 Sample K1606404-001.02 doc CAS salt 010711 (CAS salt 010711) 2 66 Sample K1606404-001.02ms/msd doc CAS salt 010711 (CAS salt 010711) 2 67 Sample K1605940-001.02 doc CAS salt 010711 (CAS salt 010711) 2 68 Check Standard [TOC] CCV 25 ppm [25 ppm] CAS salt 010711 (CAS salt 010711) 1 68 Sample K1605940-002.02 doc CAS salt 010711 (CAS salt 010711) 1 69 Sample K1606150-001.02 doc CAS salt 010711 (CAS salt 010711) 2 70 Sample K1606150-002.02 doc CAS salt 010711 (CAS salt 010711) 2 71 Sample K1606150-002.02 doc CAS salt 010711 (CAS salt 010711) 2 72 Sample K1606150-003.02 doc CAS salt 010711 (CAS salt 010711) 2 73 Sample K1606150-004.02 doc CAS salt 010711 (CAS salt 010711) 2 74 Sample K1606228-001.02 doc CAS salt 010711 (CAS salt 010711) 2 75 Sample K1606228-001.02 doc CAS salt 010711 (CAS salt 010711) 2	*******		ali da como como como como como como como com	taran and the control of the control	Ti Arue	TReady T
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D Check Standard [TOC] CC8 [0 ppm] CAS_salt_010711 (CAS_salt_010711) 1				\$	Contact	Ready
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Printed on: June 13, 2016 15:53:07

Fusion Report - 061316 Monday, June 13, 2016 02:07 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History) Printed on 2016/06/15 08:55 -Wednesday

Report Summary Information

Company Location:

Gen Chem Lab

Schedule Name:

061316

Engine

1.1.5.1

Instrument Name:

Fusion1

Version: Firmware

1.2.0696

Report Version:

1 of 1

Version:

Connection: RS232 COM1

Report Creation by Operators (schedule version):

Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2)

Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v5)

Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v8)

Comment:

Report Results

	۸۰	valvaja		P 1847 P 1997 I P P9 - 1140 A 114 1140 P1 - 140 A 400 C A 4 -		***************************************
de la constanta de la constant	Pos A.	nalysis Type	Start	Time		
(clean)			otaministi ole	Clean		
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.94	15.56	1.62	49.69	05:23
2	TC Clean	7.62	9.23	1.61	51.17	04:03
3	TC Clean	2.97	4.85	1.88	50,21	03:50
4	TC Clean	3.31	4.98	1.67	51.16	03:50

	Pos Ai	nalysis Type	Start Time			
(C	dean)		Clean			
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	174	Pressure (psig)	Run Time
1	IC Clean	0.91	2.81	1.90	49.11	05:20
2	TC Clean	6.47	8.35	1.88	50.37	03:58

		TO 01-	0.00		[i
1	3	i C Clean	2.90	4.90	2.00	50.58	03:46
2000	4	TC Clean	2.67	4.76	2.09		03:51

and the base of th	POS :	nalysis Type	Sample ID	Start	rt Time			
(c	clean)	\$	Clean		2016/06/	2016/06/13 14:51		
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time		
1	IC Clean	0.53	2.52	1.99	48.62	05:19		
2	TC Clean	5.87	7.86	1.98	50.46	03:55		
3	TC Clean	2,68	5.04	2.36	51.05	03:45		
4	TC Clean	2.99	5.12	2.13	50.68	03:50		

oaiii)	ие туре. Вы	ank (Creating v8	(10)		From (Schedule Vers
1000		nalysis Type	Sample IE	n e meneral e esta se esta se en encon e en encon e en encon e en encon e en en en encon e en en encon esta se I	Start	Time
(blank)			Reagent/Acid I	2016/06/	13 15:13	
Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.77	2.58	1.81	48.48	05:17
		ig tent o be between some or a some property or some green and a some green and a some green and a some green a	94-1911 (PROBERT CONTROL OF THE PROBERT OF THE PROB			
2	TC Clean	6.05	8.12	2.07	50.88	03:57
3	TC Clean	3.54	5.79	2.25	50.26	03:42
4	TC Clean	3.22	5.59	2.37	50.99	03:44
938/2/90mm.(04.36.0	· · · · · · · · · · · · · · · · · · ·		en (1949 VIII dibitate en 1967) - version en herrorre sommen de mercennis en	n mar quar que que terre de la faction d		
5	Reagent Blank	4.30	6.59	2.29	50.57	05:00
	e de como como como como como como como com	egintal (1884 - 1886) A destillation (1886 - 1886) A destillation of the state of t		the the state of t	Y 28804 VA 682 Novelera november a national national page 24, 198	9511/3454445744.www.n.v.v.n.n.v.ww.n.v.v.n.
6	Acid Blank	0.77	2.86	2.08	48.06	05:24

Sar	nple	e Type: (Check Standard -	-> CC	СВ					From	Schedule V	ersion
	Pos	s BAT	Concentration (ppm)	Dil	Sample ID	Min / (% d		Result	Std. De	v. RSD	Start Ti	
•	D	TOC	0,0000	1:1	[TOC] CCB [0 ppm]	0 / inf (NA /		0.973 pp (PAS	n p	00 0% om	2016/06/13	3 15:46
Po	os A	Base Analysis Type	ID	Rep #	ppm	μg	Adju	ısted	NDIR	Baseline	Pressure	Run Time
)	TOC	0 ppm	1	0.9736	9.7361		15.34	17.36	2.02	54.08	10:32

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

STD Conc - Pos D 0 ppmC

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

7	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	В	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7998 ppm (PASS)	0.0000 ppm	0%	2016/06/13 16:00

Pos	Base Analysis Type	ID	Rep #	ppm	hā	Adjusted	NDIR	Baseline	Pressure	Run Time	***************************************
В	TOC	25 ppm	1	24.7998	247.9981	190.84	193.07	2.24	54.08	10:28	

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos B 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 8

The second secon	Pos	ВАТ	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	TOC	0.0000	1:1	[TOC] CCB [0	0 / infinity	0.6385	0.0000	0%	2016/06/13 16:15
			·		. ppm]	(NA/NA)	(PASS)	ppm		

Pos	Base Analysis Type	ID	Rep #	ppm	hđ	Adjusted	NDIR	Baseline	Pressure	_
D	TOC	0 ppm	1	0.6385	6.3853	12.88	15.20	2.32	54.08	10:33

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos D 0 ppmC

Sample Type: Sample

From Schedule Version 8

Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
1	TOC	MB1	0.6376 ppm	0,0000 ppm	0.0000%	2016/06/13 16:29

Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6376	6.3764	12.34	14.47	2.14	54.11	10:31

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

Sample Type: Check Standard --> LCS

From Schedule Version 8

	os	BAT		ntration pm)	Dil	Samp	le ID	Min / Ma (% dev	R	esult	Std. De	v. RSD	Start Ti	ime
•	2	TOC	FEE VAN TO A VA TOO OL. VE STOO O	24.0000	1:1	[TOC] LC	-	0 / infini (NA / N/	١)	4.9441 ppm PASS)	0.00 p	000 0% pm	2016/06/13	3 16:4
Pos	A	Base nalysis Type		ID	Rep #	ppr	n	hā	Adjuste	d !	NDIR	Baseline	Pressure	Ru Tim
2	***********	TOC	24.	0 ppm	1	24.	.9441 24	9.4413	191	.90	194.03	2.13	54.12	10:2
		ess - Cr met.			ess / Noth	Action ning		Method salt_0107 (v3)	711	CAS_sa	<u>ration</u> lt_01071 14)		OConc - Po 24 ppmC	<u>s 2</u>
amı	ple	T ype : S	ample	tend of Berliff Law Phones was It flowed of the boom	1 Ianaman Iarkana 200	no t annual fine had fine I for Point for V and fine Visit.	ariah Phanacher of Money on In 18-18-1		off and other to be an employed decimaled			From	Schedule V	ersio
Р	os	Analy Typ		San	nple l		Result	(ppmC)		. Dev. omC)	RSI)	Start Time	
•	3	TO		of the section of the	ICS	inter to the state of the section of	1,0	0405 ppm	0.	0000 ppr	n 0.000	0% 20	16/06/13 16	:58
Rep #	Α	Base nalysis		ppn	n		hâ	Adju (Al	sted os)	NDIR	(Abs)	Baseline (Abs)	Pressure (psig)	Rı Tir
1		TOC	;		1.040	5	10.4046	3	15.31	and the second free free free free free free free fre	17.53	2.23	54.13	10:
*****	n navnanačana va	1:10 Analy	načna na versa česta česta osa neo česta na sena		(v876	25 (IC) 5)	ngawanna masaransaran rawwa	_sait_0107 (v3)	Proceedings in page 1000 personnel	CAS_sa (v	14)		======================================	
P	os			San	nple l	D	Result	(ppmC)		. Dev. mC)	RSE)	Start Time	
	os 4	Typ TO	e	S an K16057	- 	Chilly has the house the second to the second		(ppmC) 7316 ppm	ld)	. Dev. omC) 0866 ppr			Start Time 16/06/13 17	*******
•	4	Тур	e C	d had a disclosed the second and had a little to a disclosed by the	750-0	02.02			(pr 0. sted	omC)	n 0.810	0% 20	*********************	':12 Rı
Rep	4	Typ TO0 Base	e C Type	K16057	750-0	02.02	10.	7316 ppm Adju (Al	(pr 0. sted	omC) 0866 ppr	n 0.810	0% 20 Baseline	16/06/13 17 Pressure	':12 Rı Tir
• Rep #	4	Typ TO0 Base nalysis	e C Type	K16057	750-0 n	02.02	10. ⁻	7316 ppm Adju (Al	(pr 0. sted os)	omC) 0866 ppr	n 0.810 (Abs)	0% 20 Baseline (Abs)	16/06/13 17 Pressure (psig)	7:12 Ru Tir 10:
Rep #	4 A	Typ TOO Base nalysis TOO	e C Type	K16057 ppn 10 10 Blank (TC)	750-00 n 0.792 0.670 Cont	02.02 8 8 4 ribution 25 (IC)	н у 107.928 106.7038	7316 ppm Adju (Al	(pr 0. sted os) 87.14 86.24	omC) 0866 ppr NDIR Calib	(Abs) 89.03 88.36	0% 20 Baseline (Abs) 1.90 2.13	16/06/13 17 Pressure (psig) 54.12	':12 Ri Tii 10
* Rep # 1 2	4 A	Typ TOO Base nalysis TOO TOO Dilution	e CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	K16057 ppn 10 11 Blank (TC)	750-0 n 0.792 0.670 <u>Cont</u> 7.642	02.02 8 4 ribution 25 (IC)	10. ⁻ Р9 107.928 ⁻ 106.7038 САЅ	7316 ppm Adju (Al	(pr 0. sted os) 87.14 86.24	omC) 0866 ppr NDIR Calib	(Abs) 89.03 88.36 eration t_01071	0% 20 Baseline (Abs) 1.90 2.13	16/06/13 17 Pressure (psig) 54.12	7:12 Ru Tir 10
Rep # 1 2	4) A	Typ TOO Base nalysis TOO TOO Dilution 1:10 Analy	e CC Type CC	K16057 ppn 10 11 Blank (TC)	750-00 n 0.792 0.670 Cont 7.642 (v876	02.02 8 4 ribution 25 (IC) 5)	10. ⁻ Р9 107.928 ⁻ 106.7038 САЅ	7316 ppm Adju (Al I S Method salt_0107 (v3)	(pr 0. sted os) 87.14 86.24 711	omC) 0866 ppr NDIR Calib CAS_sa (v	(Abs) 89.03 88.36 ration t_01071 14) RSE	0% 20 Baseline (Abs) 1.90 2.13	Pressure (psig) 54.12 54.14	Ric Tit 10
Rep # 1 2	A Pos	Typ TOC Base nalysis TOC TOC Dilution 1:10 Analy	e C C Sis	K16057 ppn 10 10 Blank (TC) San K160575	750-00 n 0.792 0.670 Cont 7.642 (v876 nple l	02.02 8 4 ribution 25 (IC) 5) D	10. ⁻ Р9 107.928 ⁻ 106.7038 САЅ	Adju (Al) Method salt_0107 (v3) (ppmC) 0905 ppm Adju	(pr 0. sted os) 87.14 86.24 711 Std (pr 0.	Calib CAS_sa: (v	(Abs) 89.03 88.36 ration 1t_01071 14) RSE	0% 20 Baseline (Abs) 1.90 2.13	Pressure (psig) 54.12 54.14 Start Time	Ru Tin 10 10:40
Rep#122	A Pos	Typ TOC Base nalysis TOC TOC Dilution 1:10 Analy Typ TOC Base	e C Type ; ; sis e C Type	K16057 ppn 10 10 Blank (TC) San K160575	750-00 n 0.792 0.670 Cont 7.642 (v876 nple 1	02.02 8 4 ribution 25 (IC) 5) D	10. 10. 10. 10. 10. 10. 10. 10. 10. 10.	Method (v3) (ppmC) Adju (Al	(pr 0. sted os) 87.14 86.24 711 Std (pr 0.	Catib CAS_sa(vDevomC)	(Abs) 89.03 88.36 ration 1t_01071 14) RSE	0% 20 Baseline (Abs) 1.90 2.13 1 0 20 Baseline	Pressure (psig) 54.12 54.14 Start Time 16/06/13 17	10 10 10 11 11 11 11 11 11 11 11 11 11 1
Rep# 1 2 Rep# #	4 A	Typ TOO Base nalysis TOO TOO Dilution 1:10 Analy Typ TOO Base nalysis	e C C Sis e C C Type	K16057 ppn 10 10 Blank (TC) San K160575 ppr 3 Blank (TC)	750-00 n 0.792 0.670 Cont 7.642 (v876 nple I 50-002 m	02.02 8	ну 107.928° 106.7038 САS Result 37.0	Method (v3) (ppmC) Adju (Al	(pr 0. sted os) 87.14 86.24 711 Std (pr 0. sted os) 280.83	Calib CAS_sa NDIR Calib CAS_sa (v Dev. DO00 ppr	(Abs) 89.03 88.36 ration t_01071 14) RSE n 0.0000 (Abs) 282.98	0% 20 Baseline (Abs) 1.90 2.13 1 0 20 Baseline (Abs) 2.15	Pressure (psig) 54.12 54.14 Start Time 16/06/13 17 Pressure (psig)	Rt Tir 10:
Rep# 1 2 P	4 A	Typ TOO Base nalysis TOO TOO Dilution 1:10 Analy Typ TOO Base nalysis TOO Dilution	e C C Sis	K16057 ppn 10 Blank (TC) San K160575 ppr 3' Blank (TC)	750-00 n 0.792 0.670 Cont 7.642 (v876 nple I 50-002 n 7.090 Cont 7.642	02.02 8 4 ribution 25 (IC) 2.02ms fibution 25 (IC) 25 (IC)	10. 10. 10. 10. 10. 10. 10. 10. 10. 10.	7316 ppm Adju (Al Method _salt_0107 (v3) (ppmC) 0905 ppm Adju (Al 4 Method _salt_0107	(pr 0. sted os) 87.14 86.24 711 Std (pr 0. sted os) 280.83	Calib CAS_sa NDIR Calib CAS_sa (v Dev. DO00 ppr	(Abs) 89.03 88.36 ration t_01071 14) RSE 0.0000 (Abs) 282.98	0% 20 Baseline (Abs) 1.90 2.13 1 0% 20 Baseline (Abs) 2.15	Pressure (psig) 54.12 54.14 Start Time 16/06/13 17 Pressure (psig)	10:12 Run 10:10:10:10:10:10:10:10:10:10:10:10:10:1

Rep

Base

Baseline Pressure Run

Adjusted

#	Α	nalysis Type	ppm	µg	(Abs)	Cacheno.	NDIR (A	(bs)	(Abs)	(psig)	Time
1	cereboorer.	TOC	11.0163	110.1629	transferration and distribution are also be a first transfer of the first	38.78		90.59	1.81	54.13	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2		TOC	10.4362	104.3615	3	34.51	ghygday Jeffell (fyd 18 hell feit Reynes, fand Felmalaus)	86.73	2.22	54.14	10:25
· Vidinasia ka iti		Dilution 1:10	Blank Contribu (TC) 7.6425 (10 (v876)	C) CAS_s	ethod alt_010711 (v3)	***************************************	<u>Calibra</u> CAS_salt_ (v14	01071	1	france of public and an extensive property a	
F	os	Analysis Type	Sample ID	Result (ppmC)		Dev. mC)	RSI)	Start Time	
•	7	TOC	K1605750-004.0	2 10.66	90 ppm	0.1	1864 ppm	1.750	0% 20	16/06/13 18	:22
Re _l		Base nalysis Type	ppm	hā	Adjuste (Abs)		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	10.8008	108.0082	8	37.20	***************************************	89.43	2.24	54.16	10:25
2		TOC	10.5372	105.3716	8	35.25	Make Not Printed In Court of Make 2 (2014) And Pro-	87.34	2.09	54.18	10:26
	1	Dilution 1:10	Blank Contribu (TC) 7.6425 (I (v876)		<u>ethod</u> ait_010711 (v3)		<u>Calibra</u> CAS_salt_ (v14	01071	1		
	os	Analysis Type	Sample ID	Result ((pp	Dev. mC)	RSI		Start Time	
•	8	TOC	K1605750-005.0	2 8.08	178 ppm	0.1	1565 ppm	1.9300	0% 20	16/06/13 18	:50
Re _l #		Base nalysis Type	ppm	þg	Adjuste (Abs)		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	8.1984	81.9842	6	88.03		70.15	2,13	54.20	10:25
2		TOC	7.9771	79.7712	•	6.40	PS35347745CS244778C44534G F4827 F17744	68.47	2.08	54.21	10:26
3		Dilution 1:10 Analysis	Blank Contribu (TC) 7.6425 (I (v876)	C) CAS_s	l <u>ethod</u> salt_010711 (v3)		Calibra CAS_salt_ (v14	01071	and such A any such as the family as a	osker av en sava de fordisch e vel en sele i talle e sele i t	and a surface for the diffe
F •	os 9	Type TOC	Sample ID K1605975-001.0	Result (ppmC) 66 ppm	(pp	mC) 0238 ppm	1 070		Start Time 16/06/13 19	
			K1003973-001.0			······································	230 ppin	1.0700		***************************************	
Re _l		Base nalysis Type	ppm	hâ	Adjuste (Abs)		NDIR (A		Baseline (Abs)	(psig)	Run Time
1		TOC	2.2335	22.3345		24.09	***********************	26.17	2.07	54.20	10:26
2	<u></u>	TOC	2.1998	21.9978	2	23.84		25.95	2.11	54.20	10:27
	<u>]</u>	Dilution 1:10	Blank Contribu (TC) 7.6425 (I (v876)		lethod salt_010711 (v3)		Calibra CAS_salt_ (v14	01071	1		pro-1/2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2
I	Pos	Analysis Type	Sample ID	Result (ppmC)		Dev. mC)	RSI)	Start Time	
•	10	TOC	K1605975-001.01	ms 27.68	360 p pm	0.0	0000 ppm	0.000	0% 20	16/06/13 19	:45
Re #		Base nalysis Type	ppm	þg	Adjuste (Abs)		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	27.6860	276.8602	2′	11.56	2	13.36	1.79	54.21	10:2
	ļ	Dilution 1:10	<u>Blank Contribu</u> (TC) 7.6425 (I (v876)		<u>lethod</u> salt_010711 (v3)	- Anthropia Ali	<u>Calibra</u> CAS_salt_ (v14	01071	1		- Manual Rel

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / M (% de	-,	Result	Std. Dev	. RSD	Start Ti	ime
•	В	TOC	25.0000	1:2	[TOC] CCV 2: ppm [25 ppm	\$		24.8424 ppm (PASS)	0.000 pp		2016/06/13	3 19:59
P	i .	Base nalysis Type	i ID	Rep #	ppm	μg	Adj	usted	NDIR	Baseline	Pressure	Run Time
E	3	TOC	25 ppm	1	24.8424	248.4244	~~~~	191.15	193.54	2.39	54.22	10:29
!	Comp	oletion	State Succ	ess A	ction	Method		<u>Cali</u>	bration	STD	Conc - Pos	<u>s B</u>
	Succ	ess - C met.	riteria Do	o Noth	ing C/	\S_salt_01 (v3)	0711		ait_010711 v14)		50 ppmC	

la bassani'n	Pos	ват	Concentration (ppm)	Dil	Sample ID	Min / (% d	;	Result	Std. Dev	. RSD	Start Ti	me
•	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / inf (NA /		0.772 ppn (PASS	n pp	00 0% om	2016/06/13	3 20:14
P	1	Base nalysis Type	ID.	Rep #	ppm	hā	Adju	usted	NDIR	Baseline	Pressure	Run Time
	D	TOC	0 ppm	1	0.7727	7.7267		13.86	16.03	2.16	54.23	10:32
ocaro.	Com	oletion	State Succ	ess A	ction	Method		<u>Ca</u>	libration	STD	Conc - Pos	s D
			riteria Do	Noth		S salt 01			salt_010711		0 ppmC	

_	ccess - Criter met.		Do Nothing		<u>salt_</u> 0107 (v3)	11	CAS_salt_ (v1	_01071		0 ppmC	<u> </u>
amp	le Type : San	nple	tradition to high higher find health all play had redired to the desired health are so that he could be desired to		TOTAL CONTRACT OF THE STREET O	instal pitempin v zavozani a v zenava	Y OPTO OPTO AND A TORROW A TAX FROM A 11 A PAGE.	marranigangrappinan, daga jama	From	Schedule V	ersion
Po	os Analysis Type	S	Sample ID	Result	(ppmC)		. Dev. omC)	RSE)	Start Time	
1	1 TOC		K1605975-002.0	1 1.9	991 ppm	0.	0568 ppm	2.8400)% 20	16/06/13 20	:28
Rep #	Base Analysis Ty	/ре	ppm	hā	Adju (Ab		NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC		2.0393	20.3931		22.66	***************************************	24.72	2.06	54.24	10:24
2	TOC		1.9589	19.5893		22.07	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	24.33	2.26	54.26	10:25
	Dilution		Blank Contribut	tion I	/lethod		Calibra	ation			
	1:10		(TC) 7.6425 (IC (v876)	C) CAS_	salt_0107 (v3)	11	CAS_salt_ (v14	_01071	1		
Po	Analysis Type	5	Sample ID	Result	(ppmC)		. Dev. omC)	RSE)	Start Time	teritarity francisch en fra van en fr
♦ 1:	2 TOC		K1605983-001.0	1 0.8	143 ppm	0.0	0018 ppm	0.2200)% 20 [.]	16/06/13 20	:56
Rep #	Base Analysis Ty	/pe	ppm	μg	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	-	0.8156	8.1563		13.65		15.44	1.79	54.26	10:33

2	TOC	0.8130	8,	1305	13.63	~ = ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1 ~ 1	15.55	1.92	54.27	
	<u>Dilution</u> 1:10	<u>Blank Contribu</u> (TC) 7.6425 ((v876)		Method AS_salt_0107 (v3)	′11	Calibra CAS_salt_ (v14	01071	1		
Pos	Analysis Type	Sample ID	Re	suit (ppmC)		Dev. mC)	RSE)	Start Time	***************************************
13	TOC	K1606174-001.0	D1	3.1358 ppm	0.0)768 ppm	2.4500)% 20 [.]	16/06/13 21	:24
Rep # /	Base Analysis Type	ppm	hã	Adju (At		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
1	TOC	3.1901	31.9	9008	31.14		33.14	2.00	54,28	10:3
2	TOC	3.0815	30.8	8146	30.34		32.25	1.91	54.31	10:2
	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 ((v876)		Method AS_salt_0107 (v 3)	'11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Pos	Analysis Type	Sample ID	Re	sult (ppmC)		Dev. mC)	RSE)	Start Time	hallande of the state of the state of
14	TOC	K1606174-001.01	1ms	28.1495 ppm	0.0	0000 ppm	0.0000	0% 20 [.]	16/06/13 21	:52
Rep # #	Base Analysis Type	ppm	hâ	Adju (At		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Rur Tim
1	TOC	28.1495	281.4	4953	214.98	2	16.85	1.87	54.30	10:3
	1.10		ution IC) C	Method :AS salt 0107	11	<u>Calibra</u> CAS salt		1		
Pos	1:10	(TC) 7.6425 ((v876) Sample ID	IC) C	:AS_salt_0107 (v3) sult (ppmC)	Std.	CAS_salt_ (v14	01071	00° p 10° mar 10° p 10°	Start Time	and the second s
Pos	Analysis	(TC) 7.6425 ((v876)	IC) C	AS_salt_0107 (v3) sult (ppmC)	Std. (pp	CAS_salt_ (v14 Dev. omC)	01071 [.]) RSC		Start Time 16/06/13 22	
• 15 Rep	Analysis Type TOC Base	(TC) 7.6425 ((v876) Sample ID	IC) C	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm	Std. (pp 0.0	CAS_salt_ (v14	01071 ²) RSE 1.3100)% 20° Baseline	16/06/13 22 Pressure	2:06 Rur
• 15 Rep	Analysis Type TOC	(TC) 7.6425 (v876) Sample ID K1605768-001.	Re 05	AS_salt_0107 (v3) sult (ppmC)	Std. (pp 0.0	CAS_salt_ (v14 Dev. mC) 0156 ppm	01071 ²) RSE 1.3100	0% 20	16/06/13 22	2:06 Rur Tim
15 Rep #	Analysis Type TOC Base Analysis Type	(TC) 7.6425 (v876) Sample ID K1605768-001.	IC) С Re 05 µg	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At	Std. (pp 0.0 sted	CAS_salt_ (v14 Dev. omC) 0156 ppm	01071 ² RSE 1.3100	0 0% 20 Baseline (Abs)	16/06/13 22 Pressure (psig)	2:06 Rur Tim 10:2
* 15 Rep # 4	Analysis Type TOC Base Analysis Type TOC TOC	(TC) 7.6425 (v876) Sample ID K1605768-001.0 ppm 1.2022 1.1800	Re 05 Pg 12.0	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At 0216	Std. (pp 0.0 sted os) 16.50	CAS_salt_ (v14 Dev. omC) 0156 ppm NDIR (A	01071 RSE 1.3100 (bs) 18.53) 20° Baseline (Abs) 2.03	Pressure (psig) 54.32	2:06 Rur Tim 10:2
* 15 Rep # 4	Analysis Type TOC Base Analysis Type TOC	(TC) 7.6425 (v876) Sample ID K1605768-001.0 ppm 1.2022	Re 05 µg 12.0 11.8	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At	Std. (pp 0.0 sted os) 16.50 16.33	CAS_salt_ (v14 Dev. omC) 0156 ppm	(1.3100 Abs) 18.53 17.98 (tion 01071	0 20 Baseline (Abs) 2.03 1.65	Pressure (psig) 54.32	2:06 Rur Tim 10:2
* 15 Rep # 4	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10	(TC) 7.6425 ((v876) Sample ID K1605768-001.0 ppm 1.2022 1.1800 Blank Contribution (TC) 7.6425 (Re 05 12.0 11.6 ution IC)	SAS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At) 0216 3003 Method CAS_salt_0107	Std. (pp 0.0 sted os) 16.33	CAS_salt_ (v14 Dev. omC) 0156 ppm NDIR (A	(1.3100 Abs) 18.53 17.98 (tion 01071	Baseline (Abs) 2.03 1.65	Pressure (psig) 54.32	Rur Tim 10:2 10:2
15 Rep # 1 2	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis	(TC) 7.6425 (Re 05 Pg 12.0 11.6 ution IC) Re	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At 0216 3003 Method CAS_salt_0107 (v3)	Std. (pp 0.0 sted ps) 16.50 16.33 111	Dev. Dev. D156 ppm NDIR (A Calibra CAS_salt_ (v14	(tion 01071	Baseline (Abs) 2.03 1.65	Pressure (psig) 54.32 54.32	2:06 Rur Tim 10:2 10:2
Pos	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis Type	(TC) 7.6425 ((v876) Sample ID K1605768-001.1 ppm 1.2022 1.1800 Blank Contribu (TC) 7.6425 ((v876) Sample ID K1605768-002.0	Re 05 Pg 12.0 11.6 ution IC) Re	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At 0216 3003 Method CAS_salt_0107 (v3) sult (ppmC)	Std. (pp 0.0 sted os) 16.33 (pp 0.0 sted os)	CAS_salt_ (v14 Dev. mC) D156 ppm NDIR (A Callibra CAS_salt_ (v14 Dev. mC)	(1.3100 (1.3100) (1.3100) (1.31000 (1.3100) (1.3100) (1.3100 (1.3100) (1.3100) (1.3100) (1.3100) (1.31000 (1.3100) (1.	Baseline (Abs) 2.03 1.65	Pressure (psig) 54.32 54.32 Start Time	Rur Tim 10:2 10:2 Rur Tim
Pos 15 Rep # # # 16 Rep # # 1	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base Analysis Type TOC Base Analysis Type TOC	(TC) 7.6425 (Re 05 Pg 12.0 11.3 Ltion IC) Re 04 Pg 10.9	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At) 0216 3003 Method CAS_salt_0107 (v3) sult (ppmC) 1.0912 ppm Adju (At) 9151	Std. (pp 0.0 sted os) 16.33 111 Std. (pp 0.0 sted os) 15.68	CAS_salt_ (v14 Dev. mC) 0156 ppm NDIR (A Calibra CAS_salt_ (v14 Dev. mC) 0004 ppm	(1071) RSE 1.3100 (Abs) 18.53 17.98 (tion 01071) RSE 0.0400 (Abs) 17.61	Baseline (Abs) 2.03 1.65 1 Baseline (Abs) 1.92	Pressure (psig) 54.32 54.32 Start Time 16/06/13 22 Pressure (psig) 54.32	Rur Tim 10:2 10:2 Rur Tim 10:2
Pos 16 Rep # #	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base Analysis Type TOC Base Analysis Type	(TC) 7.6425 ((v876) Sample ID K1605768-001.1 ppm 1.2022 1.1800 Blank Contribu (TC) 7.6425 ((v876) Sample ID K1605768-002.0	Re 05 Pg 12.0 11.3 Ltion IC) Re 04 Pg 10.9	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At 0216 B003 Method CAS_salt_0107 (v3) sult (ppmC) 1.0912 ppm Adju (At	Std. (pp 0.0 sted os) 16.33 (pp 0.0 sted os)	CAS_salt_ (v14 Dev. mC) 0156 ppm NDIR (A Calibra CAS_salt_ (v14 Dev. mC) 0004 ppm	(1.3100 (1.3100) (1.3100) (1.31000 (1.3100) (1.3100) (1.3100 (1.3100) (1.3100) (1.3100) (1.3100) (1.31000 (1.3100) (1.	Baseline (Abs) 2.03 1.65 1 Baseline (Abs)	Pressure (psig) 54.32 54.32 Start Time 16/06/13 22 Pressure (psig)	Rur Tim 10:2 10:2 10:2 Rur Tim 10:2
Pos 15 Rep # # # 16 Rep # # 1	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base Analysis Type TOC Base Analysis Type TOC	(TC) 7.6425 (Re 05 Pg 12.0 11.0 Ition IC) Re 04 Pg 10.0 10.0 ution	AS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At) 0216 3003 Method CAS_salt_0107 (v3) sult (ppmC) 1.0912 ppm Adju (At) 9151	Std. (pp 0.0 sted os) 16.33 (pp 0.0 sted os) 15.68 15.68	CAS_salt_ (v14 Dev. mC) 0156 ppm NDIR (A Calibra CAS_salt_ (v14 Dev. mC) 0004 ppm	(1071) RSE 1.3100 (18.53) 17.98 (tion 0.0400 (bs) 17.61 17.58 (tion 0.1071	Baseline (Abs) 2.03 1.65 1 Baseline (Abs) 1.92 1.90	Pressure (psig) 54.32 54.32 Start Time 16/06/13 22 Pressure (psig) 54.32	Rur Tim 10:2 10:2 2:34 Rur Tim 10:2
Pos 15 Rep # # # 16 Rep # # 1	Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base Analysis Type TOC TOC Dilution 1:10	(TC) 7.6425 (Re	SAS_salt_0107 (v3) sult (ppmC) 1.1911 ppm Adju (At 0216 3003 Method (v3) sult (ppmC) 1.0912 ppm Adju (At 04) Adju (At 05) Sult (ppmC) 1.0912 ppm Adju (At 05) Adju (At 05) Method (At 05) SAS_salt_0107	Std. (pp	CAS_salt_ (v14 Dev. omC) 0156 ppm NDIR (A Calibra (v14 Dev. omC) 0004 ppm NDIR (A Calibra CAS_salt_ (v14 CAS_salt_ (v14	(1071) RSE 1.3100 (18.53) 17.98 (tion 0.0400 (bs) 17.61 17.58 (tion 0.1071	Baseline (Abs) 2.03 1.65 1 0% 20 Baseline (Abs) 1.92 1.90	Pressure (psig) 54.32 54.32 Start Time 16/06/13 22 Pressure (psig) 54.32	Rur Tim 10:2 10:2 10:2 10:2

Rep #

25.0000 1:2

(ppm)

lD

[TOC] CCV 25 ppm [25 ppm]

ppm

В

TOC

Base

Pos Analysis Type

	<u>Dilution</u> 1:10		(TC)		ibution 5 (IC))		<u>/lethod</u> salt_0107 (v3)	'11	Calibra CAS_salt_ (v1	01071	1			
Ро	s Analysi Type		San	nple l	D	Result ((ppmC)		l. Dev. pmC)	RSI	כ כ		Start Time	
	3 TOC		K16059	14-03	32,03	0.8	495 ppm	0.	0237 ppm	m 2.7900%		2016/06/13 23:29		
Rep #	Base Analysis T	уре	ppn	1		μg Adjusted (Abs)			NDIR (A	NDIR (Abs)		line s)	Pressure (psig)	Run Time
1	TOC		(0.866	3	8.6627	1	14.02		15.86		1.83	54.35	10:25
2	TOC		(0.832	7	8.3274		13.78		15.37		1.59	54.35	10:24
	Dilution		Blank	Contr	ibution	N	/lethod		Calibra	ation				
	1:10		(TC)		5 (IC)	_	sait_0107 (v3)	'11	CAS_salt_ (v1-	_01071	1			
Ро	s Analysi Type	is	San	nple l	D	Result (l. Dev. omC)	RSI)	nanco contrato se s	Start Time	
◆ 19	TOC		K160591	4-032	.03ms	25.3	406 ppm	0.	0000 ppm	0.000	0%	20	16/06/13 23	:57
Rep #	Base Analysis T	уре	ppn	n	Entropy Million Markette Lance converses vi	hâ	Adju (At		NDIR (A	Abs)	Base (Ab		Pressure (psig)	Run Time
1	TOC		25	5.3406	3	253.4063		194.29		196.09	,	1.80	54.37	10:30
	<u>Dilution</u> 1:10		(TC)		ibution 5 (IC))		<u>/lethod</u> salt_0107 (v3)	'11	Calibra CAS_salt_ (v14	01071	1	neto Mario (Ne		alex muses on the control of the con
Po	s Analysi Type		San	nple 1	D	Result ((ppmC)	;	. Dev. omC)	RSD		Ment one memor had	Start Time	reduct duction in the second section is
20) TOC	· · · · · · · · · · · · · · · · · · ·	K16061	59-00	1.01	0.90	093 ppm	0.	0818 ppm	9.000	0%	6 2016/06/14 00		:12
Rep #	Base Analysis T	·ype	ppn	n		hâ	Adju (At		NDIR (/	Abs)	Base (Ab		Pressure (psig)	Run Time
1	TOC		(0.967°	1	9,6715		14.77		16.76		1.99	54.39	10:23
2	TOC		(0.851	5	8.5147		13.91		16.16	2	2.24	54.40	10:25
	<u>Dilution</u> 1:10		(TC)	<u>Contr</u> 7.642 (v876			<u>/lethod</u> salt_0107 (v3)	'11	Calibra CAS_salt_ (v14	01071	1			
	le Type: Ch		Standard -				Min / Ma						Schedule V	
Po	s BAT C	/		Dil	Samp	le ID	10/. dov/		esult S	itd. De	v. R	SD	Start Ti	me

(% dev)

0 / infinity

(NA/NA)

μg

NDIR

0.0000

ppm

Baseline Pressure

Run

Time

0% 2016/06/14 00:39

Adjusted

24.3944

ppm (PASS)

B TOC 25 p	opm 1 24	1.3944 243.9440	187.85 189.51	1.66 54.43 10:30
<u>Completion State</u> Success - Criteria met.	Success Action Do Nothing	<u>Method</u> CAS_salt_010711 (v3)	Calibration CAS_salt_010711 (v14)	STD Conc - Pos B 50 ppmC

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / (% d		Result	Std, De	٧٠.	RSD	Start Ti	me
•	D	тос	0.0000	1:1	[TOC] CCB [0 ppm]	0 / inf (NA /		0.702 pp (PAS:	nn p)00 pm	0%	2016/06/14	00:54
P	os Ai	Base nalysis Type	i ID	Rep #	ppm	μg	Adjı	ısted	NDIR	Bas	seline	Pressure	Run Time
)	TOC	0 ppm	1	0.7023	7.0234	Their new A teaching AA teaching A te	13,35	15.28		1.93	54.44	10:28

Completion State	Success Action	<u>wethou</u>	Cambradon	STD Conc - Pos D
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	0 ppmC
met.		(v3)	(v14)	
		emple and the contract of the		PF-64 (646-6464-64-641-611-1646-164-6-6-6-6-4-6-6-4-6-4

Ро	s Analysis Type	Sample (1)		Result (nnm(:)		Dev. RSD)	Start Time			
◆ 21	TOC	MB2	0.714	11 ppm	0.0000 ppm 0		0.000	0.0000% 2		016/06/14 01:08		
Rep #	Base Analysis Type	ppm	hã	Adjust (Abs	3	NDIR (A	Abs)		eline bs)	Pressure (psig)	Run Time	
1	TOC	OC 0.7141		evante, venn. kentura oli silmisi k	12.90		14.54		1.64	54.45	10:32	

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6425 (IC)	CAS_salt_010711	CAS_salt_010711
	(v 876)	-(v3)	~ (v1 4)

Sar	nple	e Type: (Check Standard -	> L(CS					From	Schedule V	ersion
	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / M (% de		Result	Std. De	v. RSD	Start Ti	me
•	2	TOC	24.0000	1;1	[TOC] LCS [24 ppm]	.0 0 / infi (NA / î	•	24.773 ppi (PASS	n pr	00 0% om	2016/06/14	01:23
Po	os /	Base Analysis Type	i ID	Rep #	ppm	hâ	Adjı	usted	NDIR	Baselin	Pressure	Run Time
2	2	TOC	24.0 ppm	1	24.7736	247.7360	un o antamonte noncomen n	190.64	192.38	1,7	4 54.46	10:29

Completion State	Success Action	<u>Method</u>	Calibration	STD Conc - Pos 2
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v 3)	CAS_salt_010711 (v14)	24 ppmC

Po	Analysis Type	Sample ID	Result (ppmC)		Dev. mC)	RSC	1	Start Time	
∲ 2	2 TOC	K1606159-002.01	0.92	289 ppm	0.0)709 ppm	7.6400)% 20	16/06/14 01	:37
Rep #	Base Analysis Type	ppm	hâ	Adjust (Abs	9	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9791	9.7909		14.85		16.60	1.74	54.46	10:25
2	TOC	0.8788	8.7876		14.12	NOSA HI Eveler (A.V. Avella Avel savet va V s Av	15.82	1.70	54.46	10:26
	<u>Dilution</u> 1:10	Blank Contributi (TC) 7.6425 (IC (v876)		<u>lethod</u> salt_01071 (v3)	1 (<u>Calibr</u> CAS_salt_ (v1	_01071	I		
Po	Analysis Type	Sample ID	Result (ppmC)		Dev. mC)	RSC		Start Time	
2.	3 TOC	K1606042-001.01	1.39	971 ppm	0.0	315 ppm	2.2500)% 20	16/06/14 02	2:05
Rep #	Base Analysis Type	ррт	hā	Adjust (Abs		NDIR (ADS) (Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1,4194	14.1939		18.10		19.89	1.79	54.48	10:24
2	TOC	1.3749	13.7486		17.77		19.44	1.67	54.49	10:26
	<u>Dilution</u> 1:10	Blank Contributi (TC) 7.6425 (IC) (v876)		<u>lethod</u> salt_01071 (v3)	1 (<u>Calibr</u> CAS_salt_ (v1	_01071′	I		
Po	Analysis Type	Sample ID	Result (ppmC)		Dev. mC)	RSD		Start Time	
2	4 TOC	K1606048-001.01	1.9	156 ppm	0.0	726 ppm	3.7900	1% 20	16/06/14 02	1:32
Rep #	Base Analysis Type	ppm	hā	Adjust (Abs		NDIR (Ab		Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9669	19.6694		22.13		23.62	1.49	54.49	10:26
2	TOC	1.8643	18.6430	······································	21.37		23.30	1.93	54.50	10:26
	<u>Dilution</u> 1:10	Blank Contributi (TC) 7.6425 (IC) (v876)		<u>lethod</u> salt_01071 (v3)	1 (<u>Calibra</u> CAS_salt_ (v1-	_010711	l		
Po	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)				Start Time	
◆ 2.	5 TOC	K1606048-001.01m	s 27.23	301 ppm	0.0	000 ppm	0.0000	1% 20	16/06/14 03	3:00
Rep #	Base Analysis Type	ppm	hā	Adjust (Abs		NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.2301	272.3011	2	208.21		209.88	1.67	54.44	10:27
	<u>Dilution</u> 1:10	Blank Contribution (TC) 7.6425 (IC) (v876)		<u>lethod</u> salt_01071 (v3)	1 (<u>Calibra</u> CAS_salt_ (v1-	_010711			
Po	Pos Analysis Sample ID		Result (ppmC)		Dev. mC)	RSD		Start Time	
∘ 2	6 TOC	K1606048-002.01	1.99	965 ppm	0.0	660 ppm	3.3100	% 20	16/06/14 03	:14
Rep	Base Analysis Type	ppm	þg	Adjusted		NDIR (Abs)		Baseline (Abs)	Pressure (psig)	Run Time
#	Analy 5/5 1) pc			V	'1			V	(F9)	

2	m (your your you	TOC	1.9498	19.4983	22.00		23.69	1.69	54,43	10:25	
		Dilution 1:10	Blank Contribu (TC) 7.6425 (III (v876)	C) CAS_s	ethod alt_010711 (v3)	Calibra CAS_salt_ (v14	010711	I			
F	os	Analysis Type	Sample ID	Result (p	nnni i	l. Dev. pmC))	Start Time		
•	27	TOC	K1606048-003.0	1.88	22 ppm 0.	0025 ppm	25 ppm 0.1300%		2016/06/14 03:42		
Rep	Aı	Base nalysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)		Baseline (Abs)	Pressure (psig)	Run Time	
1		TOC	1.8840	18.8399	21.52		23.21	1.69	54.40	10:24	
2		TOC	1.8805	18.8046	21.49		23.37	1.87	54.45	10:24	
Javaneguan	Dilution Blank Contribution Method Calibration 1:10 (TC) 7.6425 (IC) (v876) CAS_salt_010711 CAS_salt_01071 (v14)						010711	and the second s	THE AMERICAN SACRAN	#*************************************	
F	os	Analysis Type	Sample ID	Result (p	10101 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. Dev. pmC)	RSD)	Start Time		
• :	28	TOC	K1606103-002.0	2 1.31	29 ppm 0.	0736 ppm	5.6100)% 20 ⁻	16/06/14 04	:10	
Rep		Base nalysis Type	ppm	þg	Adjusted (Abs)	NDIR (A	bs)	Baseline (Abs)	Pressure (psig)	Run Time	
1		TOC	1.3649	13.6495	17.70	19.40		1.71	54.40	10:23	
2		TOC	1.2608	12.6081	16.93		18.85	1.92	54.46	10:24	
		Dilution 1:10	Blank Contribu (TC) 7.6425 (I (v876)	C) CAS_s	<u>ethod</u> alt_010711 (v3)	Calibra CAS_salt_ (v14	010711	1			
F	Pos Analysis Sample ID		Result (p	TOME 3	l. Dev. pmC)	RSD)	Start Time			
•	29	TOC	K1606195-002.0	95-002.03 1.4467 ppm 0.08		0821 ppm	5.6700)% 20 [.]	16/06/14 04	:37	
Rep		Base nalysis Type	ppm	hā	Adjusted (Abs)	NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time	
1		TOC	1.5048	15.0479	18.73		20.62	1.90	54.44	10:26	
2		TOC	1.3887	13.8871	17.87		19.32	1.45	54.51	10:26	
	<u></u>	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 (I (v876)	C) CAS_s	ethod alt_010711 (v3)	Calibra CAS_salt_ (v14	01071	1			

ar	nple	<u> Type</u> : (Check Standard -	-> CC	V 25 ppm					Fr	om :	Schedule Ve	ersion
egency a s	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / N (% de		Result	Std. De	/. R	SD	Start Ti	me
•	В	TOC	25.0000	1:2	[TOC] CCV 2: ppm [25 ppm	1	•	24.320 ppn (PASS	n pr	00 (om	0%	2016/06/14	05:05
Pc	s A	Base Analysis Type	ID	Rep	ppm	hā	Adj	usted	NDIR	Base	line	Pressure	Run Time
E	3	TOC	25 ppm	1	24,3200	243.2000		187.30	189.07	1	1.77	54.48	10:28

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

STD Conc - Pos B 50 ppmC

Sample Type; Check Standard --> CCB

From Schedule Version 8

To a series of the series of t	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	TOC	0.0000	1:1	[TOC] CCB [0	0 / infinity	0.7379	0.0000	0%	2016/06/14 05:20
					ppm]	(NA/NA)	ppm	ppm		
L							(PASS)			and the control of th

Pos	Base Analysis Type	ID	Rep #	ppm	μg	Adjusted	NDIR	Baseline	Pressure	Run Time	
D	TOC	0 ppm	1	0.7379	7.3791	13.61	15.26	1.66	54.42	10:30	

Completion State
Success - Criteria
met.

Success Action
Do Nothing

<u>Method</u> CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos D 0 ppmC

Sample Type: Sample

From Schedule Version 8

what he had and and a second	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	30	TOC	K1606149-005.05 25x	1.0951 ppm	0.0370 ppm	3.3800%	2016/06/14 05:34

Re #	p Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0690	10.6897	15.52	17.33	1.82	54.42	10:25
2	TOC	1,1212	11.2124	15.90	17.59	1.69	54.38	10:26

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

the same of the sa	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	31	TOC	K1606149-007.05 2x	1.5518 ppm		2.1600%	

Control of the contro	Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	1.5755	15.7552	19.25	20.90	1.65	54.38	10:28
	2	TOC	1,5281	15.2814	18.90	20.70		54.38	

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
۵	32	TOC	K1606149-007.05ms 2x	23.0574 ppm	0.0000 ppm	0.0000%	2016/06/14 06:30

Na capacita Na cabasa da	Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	23.0574	230.5742	177.47	179.28	1.80	54.35	10:31

	1.000	Dilution 1:10	<u>Blank Contrib</u> (TC) 7.6425 (v876)		_	<u>lethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v1 ²	01071	1		
1	os	Analysis Type	Sample ID		Result (ppmC)		. Dev. omC)	RSE)	Start Time	eletrore (estilizado III) e auso es
•	33	TOC	K1606149-008.0	5 10x	1.05	508 ppm	0.0	0811 ppm	7.7200	0% 20	16/06/14 06	6:44
Re _l		Base nalysis Type	ppm		μg	Adju: (Ab		NDIR (A	∖bs)	Baseline (Abs)	Pressure (psig)	Run Tìme
1		TOC	1.1082	***************************************	11.0821	no la Arthurus are are area and a common a value	15.80	# 19 # 17 # 18 # 18 # 18 # 18 # 18 # 18 # 18	17.81	2.00	54.36	10:26
2		TOC	0.9935		9.9348		14.96		16.77	1.81	54.36	10:27
	Ē	Dilution 1:10	Blank Contrib (TC) 7.6425 (v876)		*****	lethod salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v1 ²	01071	1		
F	Pos	Analysis Type	Sample ID		Result (ppmC)		, Dev. omC)	RSE)	Start Time	
•	34	TOC	K1605935-001	.02	3.00	089 ppm	0.0	0896 ppm	2.9800)% 20	16/06/14 07	':12
Rej #		Base nalysis Type	ppm	*************************	μg	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	3.0722		30.7223	Maria Balandan da Brimondo Barbano de Sun Villa	30.27		32.13	1.86	54.33	10:23
2	almin si barrana varan	TOC	2.9456	Brain Charles averages (A	29.4556		29.34	Vindalvind dan dhimu versamon a can	31.43	2.09	54.34	10:27
		1:10 Analysis	(TC) 7.6425 (v876)	(IC)	**************************************	salt_0107 (v3)		CAS_salt_ (v14 . Dev.	i)	Fit Ah Ah Ah han hay has disarka sasakas shi sasah yah yan	OPPER TO A STATE OF THE LOCAL OF THE PARTY O	TO SHARE HE AND AN ADDRESS OF THE OWNER.
	os	Туре	Sample ID		Result (nnm()				١ :		
- A		TOO	V1605035 004 0	·				omC)	RSD		Start Time	
	35	TOC	K1605935-001.0	2ms)34 ppm	0,0		0.000.0)% 20°	16/06/14 07	
Rep #))	TOC Base nalysis Type	ppm	1411-1411-1411-1411-1411-1411-1411-141			0.0 sted	omC)	0.0000)% 20°		
Rep))	Base		6-18-18-18-18-18-18-18-18-18-18-18-18-18-	28.40)34 ppm Adjus (Ab	0.0 sted	omC) 0000 ppm NDIR (A	0.0000)% 20 [.] Baseline	16/06/14 07 Pressure	:39 Run Time
Rep #	Ar	Base nalysis Type	ppm	ution	28.40 µg 284.0342 <u>M</u>)34 ppm Adjus (Ab	0.0 sted s) 216.85	omC) 0000 ppm NDIR (A	0.0000 Abs) 218.57 ation 010711	20 Baseline (Abs)	16/06/14 07 Pressure (psig)	:39 Run Time
Rep # 1	Ar	Base nalysis Type TOC Dilution	ppm 28.4034 Blank Contrib (TC) 7.6425	ution	28.40 µg 284.0342 <u>M</u>	Adjus (Ab lethod salt_0107 (v3)	0.0 sted s) 216.85	NDIR (A Calibra CAS_salt_	0.0000 Abs) 218.57 ation 010711	Baseline (Abs)	16/06/14 07 Pressure (psig)	Run Time 10:32
Rep#	Ar	Base nalysis Type TOC Dilution 1:10 Analysis	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876)	oution (IC)	28.40 µg 284.0342 M CAS_s	Adjus (Ab lethod salt_0107 (v3)	0.0 sted s) 216.85	NDIR (A Calibra CAS_salt_ (v14	0.0000 (Abs) (18.57) (100) (010711) (1)	Baseline (Abs)	Pressure (psig) 54.41	Run Time 10:32
Rep#	Pos 36	Base nalysis Type TOC Dilution 1:10 Analysis Type	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID	ution (IC)	28.40 µg 284.0342 M CAS_s	Adjus (Ab lethod salt_0107 (v3)	0.0 sted s) 216.85	MDIR (A Calibra CAS_salt_ (v14 Dev. DmC)	0.0000 (Abs) (18.57) (100) (0.10711) (1) (1) (1) (2) (3) (4) (4) (5) (6) (7) (7) (7) (8) (9) (9) (9) (9) (9) (9) (9) (9	Baseline (Abs)	Pressure (psig) 54.41 Start Time	Run Time 10:32
Rep # 1 1 Rep # 1	Pos 36	Base nalysis Type TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC TOC	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID K1605935-002 ppm 27.6310	oution (IC)	28.40 µg 284.0342 M CAS_s Result (27.54 µg 276.3104	Adjus (Ab lethod sait_0107 (v3) ppmC) Adjus (Ab	0.0 sted s) 216.85 11 Std. (pp 0.7 sted s) 211.16	MDIR (A Calibra CAS_salt_ (v14 Dev. omC) 1196 ppm NDIR (A	0.0000 abs) 118.57 1100 010711 RSD 0.4300 abs)	Baseline (Abs) 1.72 Baseline (Abs) 1.72 Baseline (Abs) 1.90	Pressure (psig) 54.41 Start Time 16/06/14 07 Pressure (psig) 54.38	Run Time 10:32
Rep#	Pos 36	Base nalysis Type TOC Dilution 1:10 Analysis Type TOC Base nalysis Type	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID K1605935-002	oution (IC)	28.40 µg 284.0342 M CAS_s Result (27.54	Adjus (Ab lethod sait_0107 (v3) ppmC) Adjus (Ab	0.0 sted s) 216.85 11 Std. (pp 0.7	MDIR (A Calibra CAS_salt_ (v14 Dev. omC) 1196 ppm NDIR (A	0.0000 (Abs) (18.57) (100) (0.10711) (1) (1) (1) (2) (3) (4) (4) (5) (6) (6) (7) (7) (8) (9) (9) (10	Baseline (Abs) 1.72 Baseline (Abs)	Pressure (psig) 54.41 Start Time 16/06/14 07 Pressure (psig)	Run Time 10:32
Rep # 1 1 Rep # 1	Pos 36 Ar	Base nalysis Type TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC TOC	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID K1605935-002 ppm 27.6310	oution (IC)	28.40 µg 284.0342 M CAS_s Result (27.54 µg 276.3104 274.6187	Adjus (Ab lethod sait_0107 (v3) ppmC) Adjus (Ab	0.0 sted s) 216.85 11 Std. (pp 0. sted s) 211.16	MDIR (A Calibra CAS_salt_ (v14 Dev. omC) 1196 ppm NDIR (A	0.0000 (abs) (18.57) (19.00	Baseline (Abs) 1.72 Baseline (Abs) 1.72 Baseline (Abs) 1.90 1.78	Pressure (psig) 54.41 Start Time 16/06/14 07 Pressure (psig) 54.38	Run Time 10:32
Rep # 1 2	Pos 36 Ar	Base nalysis Type TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis Type TOC TOC Dilution 1:10	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID K1605935-002 ppm 27.6310 27.4619 Blank Contrib (TC) 7.6425	oution (IC)	28.40 Pg 284.0342 M CAS_s Result (27.54 Pg 276.3104 274.6187 M CAS_s Result (Adjus (Ab lethod salt_0107 (v3) ppmC) Adjus (Ab Lethod salt_0107 (v3) Adjus (Ab Lethod salt_0107 (v3) ppmC)	0.0 sted s) 216.85 11 Std. (pp 0.0 sted s) 211.16 209.91	MDIR (A Calibra CAS_salt_ (v14 Dev. omC) 1196 ppm NDIR (A 2 Calibra CAS_salt_ 2 Calibra CAS_salt_	0.0000 (abs) (18.57) (19.00	Baseline (Abs) 1.72 Baseline (Abs) 1.72 Baseline (Abs) 1.90 1.78	Pressure (psig) 54.41 Start Time 16/06/14 07 Pressure (psig) 54.38	Run Time 10:32
Rep # 1 1 2 F	Pos 36 Ar	Base nalysis Type TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis	ppm 28.4034 Blank Contrib (TC) 7.6425 (v876) Sample ID K1605935-002 ppm 27.6310 27.4619 Blank Contrib (TC) 7.6425 (v876)	oution (IC)	28.40 Pg 284.0342 M CAS_s Result (27.54 Pg 276.3104 274.6187 M CAS_s Result (Adjus (Ab lethod sait_0107 (v3) ppmC) Adjus (Ab Lethod sait_0107 (Ab	0.0 sted s) 216.85 11 Std. (pp 0.7 sted s) 211.16 209.91	MDIR (A Calibra CAS_salt_ (v14 Dev. omC) 1196 ppm NDIR (A Calibra CAS_salt_ (v14 Dev. omC)	0.0000 Abs) 118.57 118.57 010711 RSD 0.4300 Abs) 11.69 ttion 010711	Baseline (Abs) 1.72 Baseline (Abs) 1.72 Baseline (Abs) 1.90 1.78	Pressure (psig) 54.41 Start Time 16/06/14 07 Pressure (psig) 54.38 54.41	Run Time 10:32

#	Analysis Type	ppm	þg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	32,8248	328.2484	249.41	251.49	2.07	54.35	10:26
2	TOC	32.1765	321.7655	244.64	246.67	2.03	54.40	10:26

 Dilution
 Blank Contribution

 1:10
 (TC) 7.6425 (IC) (v876)

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	38	TOC	K1605935-004.02 2x	34.1948 ppm	0.1919 ppm	0.5600%	2016/06/14 08:49

A CONTRACTOR STATE OF THE PARTY	Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	34.3305	343.3051	260,50	262.75	2.25	54.40	10:27
San Caretain	2	тос	34.0591	340.5911	258.50	260.36	1.85	0 7.00	

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
and and deal hands	39	TOC	rb	0.7916 ppm	0.1193 ppm	15.0800%	2016/06/14 09:17

Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9431	9,4311	14.59	16.55	1.96	54.38	10:24
2	TOC	0.8201	8.2011	13.68	15.50	1.81	54.36	10:27
3	TOC	0.6644	6.6438	12.54	14.56	2.02	54.39	10:28
4	TOC	0.7389	7.3892	13.08	14,85	1.77	54.40	10:27

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876)

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
	TOC	25.0000	1:2	[TOC] CCV 25 p p m [25 ppm]		24.3119 ppm (PASS)	0000.0 mqq	0%	2016/06/14 10:12

Pos	Base Analysis Type	(D	Rep #	ppm	hā	Adjusted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.3119	243.1186	187.24	189.22	1.98	54.40	10:34

Completion State
Success - Criteria
met.

Success Action
Do Nothing

<u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

STD Conc - Pos B 50 ppmC

Sample	Type: Check Standard> CCB	19 (1986)		From Schedul	e Version 8
	Concentration	Min / Max	Semilar to the semila		

P	os	BAT	(ppm)	Dil	Sample ID	(% d	ev)	Resu	lt !	Std. Dev	r. RSD	Start Ti	me
•	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / inf (NA /	- 3 ;		527 pm \$8)	0.000		2016/06/14	10:26
Pos	Αı	Base nalysis Type	ID	Rep #	ppm	ħā	Adj	usted	N	IDIR	Baseline	Pressure	Run Time
D	- Communication	TOC	0 ppm	1	0.7527	7.5271		13.72		15.58	1.87	54.32	10:29
_		oletion S ess - Crit met.		ess A Nothi		<u>Methoo</u> S_salt_01 (v3)	-	•	S_sal	<u>ration</u> t_010711 14)		Conc - Pos 0 ppmC	s D

<u>am</u>	ple	Type: Sample							From	Schedule V	ersion
F	os	Analysis Type	Sample ID	Result (p	opmC)		. Dev. omC)	RSI		Start Time	
	40	TOC	MB3	0.71	96 ppm	0.	0000 p pm	0.000	0% 20	16/06/14 10):41
₹ep	3	Base nalysis Type	ppm	hã	Adjusted (Abs)	d	NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	0.7196	7.1964		2.94		14.97	2.02	54.32	10:28
	<u></u>	<u> </u>	Blank Contributi	ion Me	ethod		Calibra	ation			
		1:10	(TC) 7.6425 (IC (v876)		alt_010711 (v 3)		CAS_salt_ (v14		1		

2	TOC	24,0000	1:1	· · · · · · · · · · · · · · · · · · ·				ž.			
~~***				[TOC] LCS [24 ppm]	.0 0 / infi (NA / I	- 2	24.6486 ppm (PASS)	pp		2016/06/14	10:55
f	Base nalysis Type	ID	Re #	ppm	þg	Adj	usted	NDIR	Baseline	Pressure	Run Time
2	TOC	24.0 ppm	1	24.6486	246.4856		189.72	191.42	1.70	54.55	10:28

amr	<u>ole Type</u> : Sample)						From :	Schedule V	ersion
Р	os Analysis Type	Sample ID	Result (p	opmC)		Dev. mC)	RSE)	Start Time	**************************************
⊛ ∠	1 TOC	K1605935-005.02 10	x 8.80	48 ppm	0.0)704 ppm	0.800	0% 20	16/06/14 11	:10
Rep #	Base Analysis Type	ppm	hā	Adjust (Abs		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8546	88.5459		72.86	garrys spanias i transca i transcrationiqu	75.14	2.28	54.57	10:26
2	TOC	8.7551	87.5507	**************************************	72.13		73.85	1.72	54.55	10:25

		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)		_	l <u>ethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	_01071	1		
Verification of the second	Pos	Analysis Type	Sample ID	on, aerosa orque ya erosu yar o	Result (ppmC)		Dev.	RSE)	Start Time	\$ man. or occurred to \$ 0 miles \$2
•	42	TOC	K1605987-007	.03	6.11	78 ppm	0.0	0932 ppm	1,5200)% 20	016/06/14 11	1:37
Re		Base Analysis Type	ppm	actions consistent are actions of	µg	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	6.1838		61.8376	***************************************	53.19	nomicon (40 minor) (torror est estación (44 oros	54.95	1.76	54.56	10:24
2	2	TOC	6,0519		60.5193		52.22		53.96	1.74	54.57	10:27
		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)			ethod salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	_01071	1		
Colomorphic Colomo	Pos	Analysis Type	Sample ID		Result (ppmC)		. Dev. omC)	RSE)	Start Time	,
•	43	TOC	K1605987-007.0	3ms	32.50)55 ppm	0.0	0000 ppm	0.0000)% 20	016/06/14 12	2:05
Re		Base Analysis Type	ppm		μg	Adjus (Ab		NDIR (A	۹bs)	Baseline (Abs)	Pressure (psig)	Run Time
1		TOC	32.5055		325.0552		247.06	2	249.00	1.93	54.55	10:29
· vanabase	Pos	Dilution 1:10 Analysis Type	Blank Contrib (TC) 7.6425 (v876) Sample ID		_	l <u>ethod</u> salt_0107 (v3) ppmC)	Std.	Calibra CAS_salt_ (v14 . Dev. omC)	01071	************************	Start Time)
.,, •	44	TOC	K1606237-004	.09	1.89	921 ppm	~~**	1381 ppm	7.3000)% 20	016/06/14 12	2:19
Re		Base Analysis Type	ppm		hā	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
		TOC	1.9898	acequence aceuser ore ascusore	19.8975	······································	22.30	***************************************	24.20	1.90	tan far daman sika versar ara ara mata tanaharan s	10:27
2	2	TOC	1.7945	,	17.9452		20.86		22.97	2.11	54.50	10:26
- 1-1	not and the delicate	Dilution 1:10	Blank Contrib (TC) 7.6425 (v876)			lethod salt_0107 (v3)	11 Std.	Calibra CAS_salt_ (v14	01071	1		
	Pos	Type	Sample ID	1 100	Result (p		(ppr	mC)	RSD		Start Time	
•	45	TOC	K1606238-001.04	ł IUX	U.85.	25 ppm	······································	005 ppm	11.790		016/06/14 12	
R€ #		Base Analysis Type	ppm		hā	Adjus (Ab	s)	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
م دوست ده.	., (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	TOC	0.9236	والمرسودة والمراجع والمستحدد والمستحدد والمستحدد	9.2356	WITH THE PROPERTY OF THE PROPE	14.44		16.27	1.83		10:29
2	2	TOC Dilution 1:10	0.7814 Blank Contrib (TC) 7.6425 (v876)		· ·	lethod salt_0107 (v3)	13.40 11	Calibra CAS_salt_ (v14	01071	2.28 1	54.51	10:24
	**********	Analysis	Sample ID	***************************************	Result (ppmC)		Dev.	RSE)	Start Time	
	Pos	Type		www.weendor	Expression Constant	***************************************	(P)	SECONO POR PORCHASION		~, ~~~~~ ,	**************************************	

	Rep #	Base Analysis Type	ppm		μg	Adju (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	20.5458		205.4585		158.97	1	60.96	1.99	54.52	10:32
		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)		_	lethod alt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
	Pc	Analysis Type	Sample ID		Result (ppmC)		. Dev. omC)	RSI)	Start Time	
•	4	7 TOC	K1606160-001	.02	3.69	74 ppm	0.	1126 ppm	3.050	0% 20	16/06/14 13	:30
	lep #	Base Analysis Type	ppm	\$ \$1500 T \$0 Y \$160 T \$1 = \$1 = \$1 = \$1	hã	Adju (Ab		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	3.7770		37.7700		35.46		37.64	2.18	54.50	10:28
	2	TOC	3.6177	- opening personnery entre en en	36.1774	······································	34.29	~~~~	36.08	1.79	54.49	10:27
200	in 31 alvádovov	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)			lethod salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v1 ²	01071	1		
	Po	Analysis Type	Sample ID		Result (ppmC)		Dev. mC)	RSE)	Start Time	
•	48	3 TOC	K1606160-001.0	2ms	30.19	96 ppm	0.0	0000 ppm	0.0000)% 20 [.]	16/06/14 13	:57
	lep #	Base Analysis Type	ppm	and the second s	μg	Adju: (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	30.1996		301.9963		230.08	2	31.97	1.89	54.48	10:29
		<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)		****	l <u>ethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	V		

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / N (% de		Result	Std. Dev	. RSD	Start Ti	me
•	В	TOC	25,0000	1:2	[TOC] CCV 29 ppm [25 ppm]	1		24.519(ppn (PASS	n pp		2016/06/14	14:12
Ρ	os A	Base nalysis Type	i ID	Rep #	ppm	hã	Adjı	usted	NDIR	Baseline	Pressure	Run Time
	В	TOC	25 ppm	1	24.5196	245.1958		188.77	190.93	2.16	54.45	10:28
		pletion ess - C		ess A	Action	Method AS salt 01			libration salt 010711		Conc - Pos	вВ

Sa	Sample Type: Check Standard> CCB From Schedule Version 8												
7	Pos	ват	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time			
•	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.7649 ppm (PASS)	0.0000 ppm	0%	2016/06/14 14:26			
Former	dan anaman anaman d		de tempor entre contrator entre en entre en entre en el commente en el commente entre entre entre entre entre La seguipa para para para para entre e	en and attended one consider	les et screenel un etter une de rente un't en rente les 12 deue mes d'un selle à les medites à viserence.		terrana en en antiga de la companya						

Pos	Base Analysis Type	IC)	Rep #	ppm	þg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 pp	om	1	0.7649	7.6493	13.81	15.89	2.08	54.43	10:33
Co	mpletion S	tate	Succe	ess A	ction	Method	<u>[</u>	<u>Calibration</u>	STD	Conc - Pos	s D
Su	ccess - Crit met.	eria	Do	Nothi	ng CA	\S_salt_01 (v3)	0711 CA	S_salt_010711 (v14)	1	0 ppmC	

*********	met.	ili kula 1 ti kar fil kariba sari kurumum tamana tiba saribika kurusa afi karansa kurusa afi karansa kurusa af	// 100.00 100.00 101.00 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1/1 1	***********	(v3)	· · · · · · · · · · · · · · · · · · ·	(v14	l-)	M\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		**************************************
Samn	le Type: Sample		2012-1010 Facility BA 101-101-11	**************************************	STANGOURS A LIQUIDAD IN STRUCTURE AND SECURITION OF SECURITION OF SECURITION OF SECURITION OF SECURITION OF SE		#*************************************	HVANNENS VANNENS, VARIANCE	From	Schedule V	ersion
Po	Analysis	Sample ID	***************************************	Result (ppmC)		. Dev. omC)	RSE		Start Time	******************************
	9 TOC	K1606160-002.0)2 2x	7.50	03 ppm	0.0	0019 ppm	0.0300	0% 20 [.]	16/06/14 14	:41
Rep #	Base Analysis Type	ppm	remember and restroited by	μg	Adjus (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.4989		74,9895	Navarationia antimitata menaration	62.88		64.94	2.06	54.45	10:23
2	TOC	7.5017		75.0166	PM (2000) 1/1/2000 A (1000) (2000) (2000)	62.90		65.22	2.32	54.46	10:2
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)			l <u>ethod</u> alt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Po	Analysis Type	Sample ID		Result (ppmC)	(pp	Dev.	RSE	u tementetetetetetetetetetetet	Start Time	energy yn oedryr gen yn o'r er nerg.
♦ 50	тос	K1606160-003.0)2 2x	10.40)93 ppm	0.	1446 ppm	1.3900	0% 20 ⁻	16/06/14 15	:09
Rep #	Base Analysis Type	ppm		μg	Adju: (Ab		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.5115	essera someon and esserance	105.1150	~~~~~	85.06		86.62	1.56	54.46	10:2
2	TOC	10.3070	#1,404.449.479.141.1814.44	103.0704		83.56		85.75	2.19	54.43	10:26
* p******************	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)			iethod salt_0107 (v3)	11	Calibra CAS_salt_ (v1 ²	01071	1		
Pc	Analysis Type	Sample ID	ny ngo nga namang disanandassanin' n	Result (ppmC)	(pp	. Dev. omC)	RSE		Start Time	
⋄ 5	1 TOC	K1606160-004	.02	1.53	895 ppm	0.0	0376 ppm	2.4400	0% 20	16/06/14 15	5:36
Rep #	Base Analysis Type	ppm	***************************************	hā	Adju: (Ab		NDIR (A	(bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5662		15.6615		19.18	harros e e e e e e e e e e e e e e e e e e e	21.48	2.31	54.42	10:29
2	TOC	1,5129		15.1293	ANNUAL SERVICE	18.79	PARTINA V ARREST MANDER LONG ALBERTA S SOMMERS	20.66	1.87	54.43	10:23
	<u>Dilution</u> 1:10	Blank Contrib (TC) 7.6425 (v876)		****	lethod salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
Po	Analysis Type	Sample ID		Result (ppmC)		. Dev. omC)	RSE		Start Time	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	2 TOC	K1606160-005	.02	3.77	718 ppm	0.0	0226 ppm	0.6000	0% 20	16/06/14 16	3:04
Rep #	Base Analysis Type	ppm		hā	Adju: (Ab		NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time

35.54

35.31

37.21

36,97

1.67

1.67

54.41 10:29

54.43 10:26

37.8773

37.5582

TOC

TOC

2

3.7877

3.7558

<u>L</u>	Dilution 1:10	Blank Contribu (TC) 7.6425 (I (v876)		<u>Method</u> salt_010711 (v3)	CAS_s	<u>bration</u> alt_01071 v14)	1		
Pos	Analysis Type	Sample ID	Result	(ppmC)	Std. Dev. (ppmC)	RSI)	Start Time	**************************************
÷ 53	TOC	K1606162-001.0)2 3.8	729 ppm	0.0730 p	m 1.880	0% 20	16/06/14 16	3:32
Rep # A	Base nalysis Type	ppm	hā	Adjusted (Abs)	d NDI	R (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9244	39.2444	36	3.55	38.51	1.96	54.43	10:25
2	TOC	3.8213	38.2126	35	5.79	37.65	1.86	54.43	10:27
<u>[</u>	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 (I (v876)		<u>Method</u> salt_010711 (v3)	CAS_s	<u>bration</u> alt_01071 v14)	1		
Pos	Analysis Type	Sample ID	Result	(ppmC)	Std. Dev. (ppmC)	RSI	D	Start Time	
54	TOC	K1606162-002.0)2 1.6	871 ppm	0.0833 p	m 4.940	0% 20	16/06/14 16	3:59
Rep # A	Base nalysis Type	ppm	ha	Adjusted (Abs)	d NDI	₹ (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7460	17.4605	20	0.50	22.44	1.93	54.39	10:2
2	TOC	1.6282	16.2820	19	9.63	21.84	2.20	54.37	10:2
ŗ	<u>Dilution</u> 1:10	<u>Blank Contribu</u> (TC) 7.6425 (I (v876)		vlethod salt_010711 (v3)	CAS_s	<u>bration</u> alt_01071 v14)	1		
Pos	1:10 Analysis Type	(TC) 7.6425 (I (v876) Sample ID	IC) CAS_	salt_010711 (v3) (ppmC)	CAS_s Std. Dev. (ppmC)	alt_01071 v14) RSI		Start Time	
Pos	1:10 Analysis	(TC) 7.6425 (I (v876)	IC) CAS_	salt_010711 (v3) (ppmC)	CAS_s Std. Dev. (ppmC) 0.1165 p	alt_01071 v14)	D 0% 20	16/06/14 17	
Pos	1:10 Analysis Type	(TC) 7.6425 (I (v876) Sample ID	IC) CAS_	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs)	Std. Dev. (ppmC) 0.1165 p	alt_01071 v14) RSI	D 0% 20	1971 F. 1147 J. ad I. Indianies addition	:27 Rur Time
Pos • 55 Rep # A	Analysis Type TOC Base nalysis Type TOC	(TC) 7.6425 (I (v876) Sample ID K1606162-003.0 ppm 8.6761	CAS_ Result 2 8.5 µg 86.7605	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs)	CAS_s Std. Dev. (ppmC) 0.1165 p	alt_01071 v14) RSI pm 1.360 R (Abs)	0% 20 Baseline (Abs) 2.07	16/06/14 17 Pressure (psig) 54.40	':27 Run Time 10:2
Pos • 55 Rep A	Analysis Type TOC Base nalysis Type	(TC) 7.6425 (I (v876) Sample ID K1606162-003.0 ppm 8.6761 8.5114	CAS_ Result 2 8.5 μg 86.7605 85.1137	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs)	CAS_s Std. Dev. (ppmC) 0.1165 p NDI 1.55 0.33	alt_01071 v14) RSI om 1.360 R (Abs) 73.62 72.54	D 20 Baseline (Abs)	16/06/14 17 Pressure (psig)	':27 Rur Time 10:2
Pos * 55 Rep # A 1 2	Analysis Type TOC Base nalysis Type TOC TOC Cilution 1:10	(TC) 7.6425 (I (v876) Sample ID K1606162-003.0 ppm 8.6761	Result 102 8.5 109 100 100 100 100 100 100 10	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs)	CAS_s Std. Dev. (ppmC) 0.1165 p NDI 1.555 0.33 Cal CAS_s	alt_01071 v14) RSI pm 1.360 R (Abs)	D 20 Baseline (Abs) 2.07 2.20	16/06/14 17 Pressure (psig) 54.40	':27 Rur Time 10:2
Pos * 55 Rep # A 1	Analysis Type TOC Base nalysis Type TOC TOC TOC Dilution 1:10 Analysis Type	(TC) 7.6425 (I (v876) Sample ID K1606162-003.0 ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876) Sample ID	Result 02 8.5 Pg 86.7605 85.1137 ution CAS_ Result	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 70 70 Method (Salt_010711) (v3) (ppmC)	Std. Dev. (ppmC) 0.1165 p 1.55 0.33 Cal CAS_s Std. Dev. (ppmC)	RSI (Abs) 73.62 72.54 bration alt_01071 V14)	D 20 0% 20 Baseline (Abs) 2.07 2.20	16/06/14 17 Pressure (psig) 54.40 54.40 Start Time	Rur Time 10:2 10:2
Pos * 55 Rep # A 1 2	Analysis Type TOC Base nalysis Type TOC TOC TOC Dilution 1:10 Analysis	(TC) 7.6425 (I (v876) Sample ID K1606162-003.0 ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)	Result 02 8.5 Pg 86.7605 85.1137 ution CAS_ Result	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 70 70 Method salt_010711 (v3)	Std. Dev. (ppmC) 0.1165 p 1.55 0.33 Cal CAS_s Std. Dev. (ppmC)	alt_01071 v14) RSI om 1.360 R (Abs) 73.62 72.54 bration alt_01071 v14)	D 20 0% 20 Baseline (Abs) 2.07 2.20	16/06/14 17 Pressure (psig) 54.40 54.40	Rur Time 10:2 10:2
Pos	Analysis Type TOC Base nalysis Type TOC TOC TOC Oilution 1:10 Analysis Type TOC Base nalysis Type	(TC) 7.6425 (I (v876)) Sample ID K1606162-003.C ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)) Sample ID K1606162-004.C	Result 02 8.5 Pg 86.7605 85.1137 ution CAS_ Result	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 7' 70 Method salt_010711 (v3) (ppmC) 834 ppm Adjusted (Abs)	Std. Dev. (ppmC) 0.1165 p 1.55 0.33 Cal CAS_s Std. Dev. (ppmC) 0.0108 p d NDI	RSI (Abs) 73.62 72.54 bration alt_01071 V14)	D 0% 20 Baseline (Abs) 2.07 2.20 1 0% 20 Baseline (Abs)	16/06/14 17 Pressure (psig) 54.40 54.40 Start Time 16/06/14 17 Pressure (psig)	2:27 Run Time 10:28 10:28
Pos	Analysis Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC	(TC) 7.6425 (I (v876)) Sample ID K1606162-003.0 ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)) Sample ID K1606162-004.0 ppm 0.9910	Result 02 8.5 Pg 86.7605 85.1137 ution CAS_ CAS_ Pg 02 0.9 Pg 9.9104	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 7' 70 Method salt_010711 (v3) (ppmC) 834 ppm Adjusted (Abs) 44	Std. Dev. (ppmC) 0.1165 p d NDI 1.55 0.33 Cal CAS_s Std. Dev. (ppmC) 0.0108 p d NDI 4.94	alt_01071 v14) RSI om 1.360 73.62 72.54 bration alt_01071 v14) RSI om 1.100 R (Abs) 17.17	D 20 Baseline (Abs) 2.07 2.20 Baseline (Abs) 2.23	16/06/14 17 Pressure (psig) 54.40 Start Time 16/06/14 17 Pressure (psig) 54.42	Run Time 10:2: 10:2: 7:55 Run Time 10:2
Pos 55 Rep A 1 2	Analysis Type TOC Base nalysis Type TOC TOC TOC Oilution 1:10 Analysis Type TOC Base nalysis Type	(TC) 7.6425 (I (v876)) Sample ID K1606162-003.C ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)) Sample ID K1606162-004.C	Result 02 8.5	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 7' 70 Method salt_010711 (v3) (ppmC) 834 ppm Adjusted (Abs) 44	Std. Dev. (ppmC) 0.1165 p 1.55 0.33 Cal CAS_s Std. Dev. (ppmC) 0.0108 p d NDI	alt_01071 v14) RSI om 1.360 R (Abs) 73.62 72.54 bration alt_01071 v14) RSI om 1.100 R (Abs)	D 0% 20 Baseline (Abs) 2.07 2.20 1 0% 20 Baseline (Abs)	16/06/14 17 Pressure (psig) 54.40 54.40 Start Time 16/06/14 17 Pressure (psig)	Rur Time 10:2 10:2 7:55 Rur Time 10:2
Pos * 55 * 55 * 66 * 76 * 86 * 76 *	Analysis Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC	(TC) 7.6425 (I (v876)) Sample ID K1606162-003.0 ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)) Sample ID K1606162-004.0 ppm 0.9910	Result 02 8.5 Pg 86.7605 85.1137 ution CAS_ Result 02 0.9 Pg 9.9104 9.7570 ution I	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 7' 70 Method salt_010711 (v3) (ppmC) 834 ppm Adjusted (Abs) 44	Std. Dev. (ppmC) 0.1165 p. d NDI 1.55 0.33 Cal CAS_s Std. Dev. (ppmC) 0.0108 p. d NDI 4.94 4.83 Cal CAS_s	alt_01071 v14) RSI om 1.360 73.62 72.54 bration alt_01071 v14) RSI om 1.100 R (Abs) 17.17	D 0% 20 Baseline (Abs) 2.07 2.20 1 D 0% 20 Baseline (Abs) 2.23 2.06	16/06/14 17 Pressure (psig) 54.40 Start Time 16/06/14 17 Pressure (psig) 54.42	27 Run Time 10:28 10:29 7:55 Run Time 10:2
Pos * 55 * 55 * 66 * 76 * 86 * 76 *	Analysis Type TOC Base nalysis Type TOC TOC Dilution 1:10 Analysis Type TOC Base nalysis Type TOC TOC Base nalysis Type TOC TOC Dilution TOC Dilution TOC Dilution TOC Dilution	(TC) 7.6425 (I (v876)) Sample ID K1606162-003.C ppm 8.6761 8.5114 Blank Contribu (TC) 7.6425 (I (v876)) Sample ID K1606162-004.C ppm 0.9910 0.9757 Blank Contribu (TC) 7.6425 (I	Result 02 8.5 Pg 86.7605 85.1137 Ition CAS_ IC) CAS_ Pg 9.9104 9.7570 Ition CAS_ IC) CAS_	salt_010711 (v3) (ppmC) 937 ppm Adjusted (Abs) 7' 70 Method salt_010711 (v3) (ppmC) 1834 ppm Adjusted (Abs) 14 Method salt_010711	Std. Dev. (ppmC) 0.1165 p. d NDI 1.55 0.33 Cal CAS_s Std. Dev. (ppmC) 0.0108 p. d NDI 4.94 4.83 Cal CAS_s	RSI	D 0% 20 Baseline (Abs) 2.20 1 D 0% 20 Baseline (Abs) 2.23 2.06	16/06/14 17 Pressure (psig) 54.40 Start Time 16/06/14 17 Pressure (psig) 54.42	2:27 Rur Time 10:2 10:2 7:55 Rur Time 10:2 10:2

	Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
	1	TOC	2.2454	22.4540	24.18	26.06	1.88	54.48	10:27
110000000000000000000000000000000000000	2	TOC	2,1379	21.3787	23,39	25.55	2.17	54.48	10:25

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) <u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Particular de la Constitución de	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	58	TOC	K1606223-001.01ms	27.4945 ppm		9	2016/06/14 18:50

S. e. , carban, e. , prof	Rep #	Base Analysis Type	ppm	þg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time	
	1	TOC	27.4945	274.9445	210.15	212.01	1.86	54.47	10:32	

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876)

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

7	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
	В	TOC	25.0000	1:2	[TOC] CCV 25	0 / infinity	24.4924	0.0000	0%	2016/06/14 19:05
					ppm [25 ppm]	(NA/NA)	ppm	ppm		
	İ						(PASS)			į

Pos	Base Analysis Type	ID	Rep #	ppm	hâ	Adjusted	NDIR	Baseline	Pressure	Run Time	
В	TOC	25 ppm	1	24.4924	244.9243	188.57	190.95	2.38	54.48	10:33	

Completion State
Success - Criteria
met.

Success Action
Do Nothing

<u>Method</u> CAS_salt_010711 (v3)

Calibration
CAS_salt_010711
(v14)

STD Conc - Pos B 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	D	TOC	0.0000	1:1	[TOC] CCB [0	0 / infinity	0.7247	0.0000	0%	2016/06/14 19:19
Tarte Tragen					ppm]	(NA/NA)	maq	ppm		
- Albania							(PASS)			

Pos	Base Analysis Type	ID	Rep #	ppm	þg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.7247	7.2474	13.51	15.28	1.76	54.49	10:28

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos D 0 ppmC

Sample Type: Sample

From Schedule Version 8

arter and and company of the Colonial	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	59	TOC	K1606223-002.01	2.4514 ppm	0.0041 ppm	0.1700%	2016/06/14 19:34

Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4485	24.4851	25.68	27.58	1.90	54.52	10:26
2	TOC	2.4543	24.5435	25.72	27.74	2.02	54.51	10:24

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876)

<u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Sample Type: Check Standard --> LCS

From Schedule Version 8

7	Pos	ват	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Resuit	Std. Dev.	RSD	Start Time
•	2	TOC	24.0000	1:1	[TOC] LCS [24.0	0 / infinity	24.6896	0.0000	0%	2016/06/14 20:01
					ppm]	(NA/NA)	ppm	ppm		
- A							(PASS)			

Pos	Base Analysis Type	ID	Rep #	ppm	hā	Adjusted	NDIR	Baseline	Pressure	Run Time
2	TOC	24.0 ppm	1	24.6896	246.8956	190.02	191.99	1.97	54.53	10:31

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos 2 24 ppmC

Sample Type: Sample

From Schedule Version 8

All and the state of the land on the state of the state o	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time	
•	60	TOC	K1606223-003.01	13.3280 ppm	0,1788 ppm	1.3400%	2016/06/14 20:16	

Secondary	Rep #	Base Analysis Type	ppm	μg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
Same Same Same	1	TOC	13.4544	134.5441	106.74	108.67	1.93	54.54	10:25
Section and sec	2	TOC	13.2016	132.0161	104.88	106.89	2.01	54.56	10:26

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876)

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

200	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	61	TOC	K1606223-004.01	7.0549 ppm	0.0923 ppm	1.3100%	2016/06/14 20:43

Rep #	Base Analysis Type	ppm	hā	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.1202	71.2015	60.09	61.99	1.91	54.57	10:29
2	TOC	6.9897	69.8968	59.12	61.25	2.12	54.59	10:23

<u>Dilution</u>

Blank Contribution

<u>Method</u>

<u>Calibration</u>

	1:10	(TC) 7.6425 ((v876)	IC) CAS	_salt_010 (v3)	711	CAS_salt_ (v14		1		
P	os Analysis Type	Sample ID	Resul	t (ppmC)	1	. Dev. omC)	RSI	ס	Start Time	
* (S2 TOC	K1606386-002.0	09 1.	1820 ppm	0.	0199 ppm	1.680	0% 20	16/06/14 21	1:11
Rep	Base Analysis Type	ppm	μg		usted bs)	NDIR (A	∖bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1961	11.960	5	16.45	Pour movement ner runner ryangu (pagga	18.41	1.96	54.60	10:26
2	TOC	1.1679	11.679	5	16.24	Control of the contro	18.38	2.13	54.64	10:25
	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 ((v876)		Method _salt_010 (v3)	711	Calibra CAS_salt_ (v14	01071	1		
Р	os Analysis Type	Sample ID	Resul	t (ppmC)	1	. Dev. omC)	RSI	ס	Start Time	
● 6	TOC	K1606386-002.09	9ms 26.	0838 ppm	0.	0000 ppm	0.000	0% 20	16/06/14 21	1:39
Rep	Base Analysis Type	ppm	hã		ısted bs)	NDIR (A	∖bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.0838	260.838	2	199.76	2	201.61	1.85	54.65	10:30
	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 ((v876)		Method _salt_010 (v3)	711	<u>Calibra</u> CAS_salt_ (v14	01071	1	Part of Makes a Model Material Makes to the Committee of	d and defendence of the section of t
P	Pos Analysis Sample ID			Result (ppmC)		td. Dev. ppmC))	Start Time	
• (TOC	K1606386-008.09	5x 1.0	1.0064 ppm 0.149		494 ppm	14.840	0% 20	16/06/14 21	1:53
Rep #	Base Analysis Type	ppm	þg		ısted bs)	NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1120	11.120	1	15.83		17.86	2.03	54.68	10:28
2	тос	0.9008	9.007	6	14.28		16.51	2.23	54.66	10:25
	<u>Dilution</u>	Blank Contribu	ıtion	Method		Calibra	ation			
	1:10	(TC) 7.6425 (v876)		_salt_010 ⁻ _(v3)	711	CAS_salt_ (v1 ²	01071	1		
Р	os Analysis Type	Sample ID	Resul	t (ppmC)		. Dev. omC)	RSI		Start Time	
♦ €	55 TOC	K1606404-001.02	doc 3.	3051 ppm	0.1	0483 ppm	1.460	0% 20	16/06/14 22	2:21
Rep	Base Analysis Type	ppm	μg		ısted bs)	NDIR (A	\bs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3393	33.392	8	32.24		34.14	1.91	54.67	10:30
2	TOC	3.2710	32.709	9	31.74		33.35	1.62	54.69	10:23
	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 ((v876)		Method _salt_0101 (v3)	711	<u>Calibra</u> CAS_salt_ (v14	01071	1		
P	os Analysis Type	Sample ID	Resul	t (ppmC)		. Dev. omC)	RSI)	Start Time	
• 6	66 TOC	K1606404- 001.02ms/msd d		8.5402 ppm 0.0412 ppm 0.1400%		0% 20	% 2016/06/14 22:49			
Rep	Base		MOT MA APPLIES A MEA ALL STORY OF ANY ART OF A MET AND ANY ART OF A MET ART OF A MET ART OF A MET ART OF A MET	Adju	ısted	NE CONTROL CONTROL TO A STANDARY CONTROL AS ELECTRIC AND A STANDARY AND A STANDAR	noop, trouve er er oren jane e et e.	Baseline	Pressure	Run

#	Analysis Type	ppm	þg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	28.5111	285.1108	217.64	219.53	1.89	54.69	10:26
2	TOC	28.5693		218.07	219.76	1.69		10:24

Method CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Secretaria de Constitución de	Annually Assessment and a	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
Seed control to the seed	•	67	TOC	K1605940-001.02 doc	2.4311 ppm	0.0969 ppm		2016/06/14 23:16

Re #	Base Analysis Type	ppm	hã	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4996	24.9956	26.05	28.11	2,06	54.73	10:30
2	TOC	2.3626	23.6257	25.04	26.62	1.57	54.65	10:23

Dilution 1:10 Blank Contribution (TC) 7.6425 (IC) (v876) <u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	В	TOC	25.0000	1:2	3	0 / infinity	24.3067	0.0000	0%	2016/06/14 23:44
					ppm [25 ppm]	(NA/NA)	ppm	ppm		
							(PASS)			

Pos	Base Analysis Type	ID	Rep #	ppm	hã	Adjusted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.3067	243.0670	187.20	188.73	1.52	54.71	10:34

Completion State
Success - Criteria
met.

Success Action
Do Nothing

<u>Method</u> CAS_salt_010711 (v3) Calibration
CAS_salt_010711
(v14)

STD Conc - Pos B 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 8

Co		Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
PARPIAN PAR	•	D	TOC	0.0000	1:1	[TOC] CCB [0	0 / infinit y	0.7376	0.0000	0%	2016/06/14 23:59
0						ppm]	(NA/NA)	ppm	ppm		
and the same								(PASS)	reducing blanch shows from the belowed Manifelian A.V. Arin, day		7344174741400000000000000000000000000000

Pos	Base Analysis Type	ID	Rep #	ppm	þg	Adjusted	NDIR	Baseline	Pressure	Run Time	
D	TOC	0 ppm	1	0.7376	7.3764	13.61	15,42	1.81	54.67	10:28	

Completion State
Success - Criteria
met.

Success Action
Do Nothing

Method CAS_salt_010711 (v3) Calibration CAS_salt_010711 (v14) STD Conc - Pos D 0 ppmC

	Pos	Analysis Type	Sample ID	Result	(ppmC)		Dev. mC)	RSE)	Start Time	
•	68	TOC	K1605940-002.02	doc 2.4	991 ppm	*********	0408 ppm	1.6300)% 20	16/06/15 00):13
Re	ep # #	Base Analysis Type	ppm	hā	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Run Time
,	1	TOC	2.4702	24.7023		25.84	1000 TOO 1 40 TOO 100	27,53	1.70	54.74	10:2
2	2	TOC	2.5279	25.2794	1000	26.26		27,96	1.70	54.68	10:28
		<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 (I (v876)		<u>/lethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v1	_01071	1		
	Pos	Analysis Type	Sample ID	Result	(ppmC)		. Dev. omC)	RSC		Start Time	!
	69	TOC	K1606150-001.02	doc 2.0	229 ppm	0.0	0614 ppm	3.0400	0% 20	16/06/15 00):41
Re	ep # #	Base Analysis Type	ppm	hã	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Rur Tim
	1	TOC	2.0663	20.6632		22.86		24.38	1.51	54.70	10:2
2	2	TOC	1.9794	19.7943		22.22	handing on the advantage of a great and a great and a great and a great and a great and a great and a g	24.15	1.93	54.67	10:2
	Non-Hills state of the	<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 (I (v876)		Method salt_0107 (v3)	11	Calibra CAS_salt_ (v14	_01071	1		
Contraction of the second	Pos	Analysis Type	Sample ID	Result	(ppmC)		. Dev. omC)	RSC)	Start Time	I .
•	70	TOC	K1606150-002.02	doc 0.7	469 ppm	0.0	0082 ppm	1.0900	0% 20	16/06/15 01	:09
Re ‡	ep # #	Base Analysis Type	ppm	hа	Adjus (Ab		NDIR (A	Abs)	Baseline (Abs)	Pressure (psig)	Rui Tim
	1	TOC	0.7526	7.5263		13.19		15.07	1.88	54.63	10:2
2	2	TOC	0.7411	7.4109	bry birt Montestes Churchestes technicom or im-	13.10	to the state to accomplish to the state of t	14.71	1.61	54.68	10:2
		<u>Dilution</u> 1:10	<u>Blank Contribu</u> (TC) 7.6425 (I (v876)		<u>/lethod</u> salt_0107 (v3)	11	<u>Calibra</u> CAS_salt_ (v14	01071	1		
,,,,,,	Pos	Analysis Type	Sample ID	Result	(ppmC)		. Dev. omC)	RSC		Start Time	1
•	71	TOC	K1606150-003.02	doc 3.6	973 ppm	0.0	0246 ppm	0.6600	0% 20	16/06/15 01	:37
Re #	ер # /	Base Analysis Type	ppm	hâ	Adjus (Ab		NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Rur Tim
		TOC	3.7147	37.1468		35.00		36.49	1.49	54.65	10:2
2	2	TOC	3.6799	36.7993		34.75		36.33	1.58	54.70	10:2
		<u>Dilution</u> 1:10	Blank Contribu (TC) 7.6425 (I (v876)		<u>vlethod</u> salt_0107 (v3)	11	Calibra CAS_salt_ (v14	01071	1		
	Pos	rype	Sample ID		(ppmC)	(pp	Dev. mC)	RSC		Start Time	
•	72	TOC	K1606150-004.02	doc 3.7	268 ppm [).0	0667 ppm	1.7900)% 20	16/06/15 02	::04
		Base			Adjus			Abs)	Danalina	Pressure	Rur

1	TOC	3.7740	37.7401	35.44	37.12	1.68	54.68	10:28
2	TOC	3.6797	36.7966	34.74	36.48	1.74	54.65	10:26

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6425 (IC)	CAS_salt_010711	CAS_salt_010711
	(v876)	(v3)	_ (v1 4)

A COLUMN TO THE PARTY OF THE PA	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	73	TOC	K1606150-005.02 doc	3.6638 ppm	0.0094 ppm	0.2600%	2016/06/15 02:32

Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6704	36.7042	34.68	36.41	1.74	54.72	10:27
2	TOC	3.6571	36.5712	34.58	36.04	1.46	54.64	10:26

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6425 (iC)	CAS_salt_010711	CAS_salt_010711
	(v876)	(v3)	(v14)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
•	74	TOC	K1606228-001.02 doc	3.4313 ppm	0.0196 ppm	0.5700%	2016/06/15 03:00

Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4452	34.4518	33.02	34.84	1.82	54.69	10:29
2	TOC	3.4175	34.1749	32.81	34.41	1.60	54.69	10:26

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6425 (IC)	CAS_salt_010711	CAS_salt_010711
	(v876)	(v3)	(v14)

200	Pos	Analysis Type	Sample ID	Result (ppmC) Std. Dev. (ppmC)		RSD	Start Time	
	75	TOC	K1606228-002.02 doc	3.3070 ppm	0.0759 ppm	2.3000%	2016/06/15 03:28	

	Rep #	Base Analysis Type	ppm	hâ	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
- Principal distribution of the contract of th	1	TOC	3,3607	33.6074	32.40	34.13	1.73	54.63	10:28
	2	TOC	3.2533	32.5334	31.60	33.28	1.67	54.69	10:28

<u>Dilution</u>	Blank Contribution	<u>Method</u>	<u>Calibration</u>
1:10	(TC) 7.6425 (IC)	CAS_salt_010711	CAS_salt_010711
	(v876)	(v3)	(v14)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule V	ersion	8
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To the second se	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
•	В	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.0669 ppm (PASS)	0.0000 ppm	0%	2016/06/15 03:56

Pos	Base Analysis Type	סו	Rep #	ppm	hã	Adjusted	NDIR	Baseline	Pressure	Run Time
В	TOC	25 ppm	1	24.0669	240.6693	185.44	187.06	1.62	54.68	10:32

Completion State

Success Action

Method

Calibration

STD Conc - Pos B

Success - Criteria met.

Do Nothing

CAS_salt_010711 (v3) CAS_salt_010711 (v14) 50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 8

Paramata de la constanta de la	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
· (1.1.)	D	тос	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.6768 ppm (PASS)	0,0000 ppm	0%	2016/06/15 04:10

Pos	Base Analysis Type	ID	Rep #	ppm	μg	Adjusted	NDIR	Baseline	Pressure	Run Time	The second secon
D	TOC	0 ppm	1	0.6768	6.7682	13.16	14.97	1.81	54.63	10:28	

Completion State

Success Action

<u>Method</u>

<u>Calibration</u> CAS_salt_010711 STD Conc - Pos D

Success - Criteria met.

Do Nothing

CAS_salt_010711 (v3)

(**v**14)

0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v875	1.4050	0.4960	0.0000	0.0000	0.0000	2016/06/11 15:48	Fusion1 (Fusion1)
v876	1.4343	0.7750	0.0000	0.0000	0.0000	2016/06/13 15:46	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:

v14

Calibration curve

TOC: y = 7.366x + 8.173

2016/02/29 21:15

formula: r² value:

TOC: $r^2 = 0.99958$

Ver Creation: Comment:

Operator:

Fusion1 (Fusion1)

Basic Analysis

TOC

Туре

Basic Analysis Type: TOC

Basic Analysis Type: TOC	agrillananak maanaa kaasa aana kee maana mada aalaa kedenalaida da Nibelia KNN da liigi.	2-2-5-4-7-2-7-7-8-8-8-6-7-7-7-7-7-7-7-7-7-7-7-7-7-7	and the second and the second and transmission of the second and t	
Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	10.4880	0.0000		2016/02/29 19:49
0.500 ppm	13.1800	0.5000		2016/02/29 20:03
1.0 ppm	16.6270	1.0000		2016/02/29 20:17
				THE STATE OF THE S

5.0 ppm	45.3570	5.0000	2016/02/29 20:31
10 ppm	75.7540	10.0000	2016/02/29 20:46
25 ppm	192,0010	25.0000	2016/02/29 20:59
50 ppm	377.7470	50,0000	2016/02/29 21:13

Operator:

Methods

Name: CAS_salt_010711 (TOC)

Version:

v3

Ver Creation: Comment:

PreSpargeTime

SystemFlow

2013/02/04 11:45

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
U V ReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	7
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	7
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Gen Chem Lab (Fusion1)

Acceptance / Approval

2.00 mins

500 ml/min

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date
VELSIOII				

Report History

0.639				OBSERVATIONS	12	BELOW
0.638				STD Deviation	0.04457	BELOW
0.773				AVERAGE	0.71495	ABOVE
0,702	0,702	0.702	0.702	UCL	0.75952	0.7023
0.714	0.714	0.714	0.714	LCL	0.67038	0.7141
0.738	0.738	0.738	0.738			0.7379
0.753	0.753	0.753	0.753			0.7527
0.720	0.720	0.720	0.720	OBSERVATIONS	8	0.7196
0.765				STD Deviation	0.28262	ABOVE
0.725	0.725	0.725	0.725	AVERAGE	0.72071	0.7247
0.738	0.738	0.738	0.738	UCL	1.00333	0.7376
0.677	0.677	0.677	0.677	LCL	0.43809	0.6768
						BELOW
						BELOW
				OBSERVATIONS	8	BELOW
				STD Deviation	0.28262	BELOW
				AVERAGE	0.72071	BELOW
				UCL	1.00333	BELOW
				LCL	0.43809	BELOW
						BELOW
						BELOW
				OBSERVATIONS	8	BELOW
				STD Deviation	0.02534	BELOW
				AVERAGE	0.72071	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

lab lab_qc_batch labsample method_code surrogate meas_basis column_no lab_rep recovery out_flag

method_code	description	lab_prep_method	lab_leach_method	lab_extraction_method	lab_anal_method
SM5310C	Total Organic Carbon (Persulfate-UV Oxidation)				SM5310C
SM2540C	Solids, Total Dissolved (Gravimetric, Dried at 180 Degrees C.)				SM2540C
SM2540D	Total Suspended Solids (TSS) Dried at 103 -105 deg C				SM2540D

lab	lab_pkg	anal_type	labsample	material_an	method_code	date_extracted	date_analyzed	mass_gm	vol_ml
ALS_K	K1605750	Convent	K1605750-001	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-002	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-002	Water	SM2540C		5/31/2016		
ALS_K	K1605750	Convent	K1605750-002	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-002	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-003	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-003	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-003	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-003	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-004	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-004	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-004	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-004	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-005	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-005	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-005	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-005	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-MB1	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-MB1	Water	SM2540C		5/31/2016		
ALS_K	K1605750	Convent	K1605750-MB1	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-MB1	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-MB2	Water	SM2540C		5/31/2016		
ALS_K	K1605750	Convent	K1605750-MB2	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-MB3	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-MB4	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-LCS1	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-LCS1	Water	SM2540C		5/31/2016		
ALS_K	K1605750	Convent	K1605750-LCS1	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-LCS1	Water	SM2540D		5/31/2016		
ALS_K	K1605750	Convent	K1605750-LCS2	Water	SM2540C		6/1/2016		
ALS_K	K1605750	Convent	K1605750-001DUP	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-002DUP	Water	SM5310C		6/11/2016		
ALS_K	K1605750	Convent	K1605750-002DUP	Water	SM5310C		6/13/2016		
ALS_K	K1605750	Convent	K1605750-003DUP	Water	SM5310C		6/11/2016		

ALS_K	K1605750	Convent	K1605750-003DUP	Water	SM5310C	6/13/2016
ALS_K	K1605750	Convent	K1605750-004DUP	Water	SM5310C	6/11/2016
ALS_K	K1605750	Convent	K1605750-004DUP	Water	SM5310C	6/13/2016
ALS_K	K1605750	Convent	K1605750-005DUP	Water	SM5310C	6/11/2016
ALS_K	K1605750	Convent	K1605750-005DUP	Water	SM5310C	6/13/2016
ALS_K	K1605750	Convent	K1605750-001MS	Water	SM5310C	6/11/2016
ALS_K	K1605750	Convent	K1605750-002MS	Water	SM5310C	6/13/2016

lab	lab_cal_batch	instrument_type	instrument_id	initial_cal_date
ALS_K	500529	TOC-O	K-TOC-01	6/11/2016
ALS_K	498903	BALANCE	K-Balance-31	5/31/2016
ALS_K	500687	TOC-O	K-TOC-01	6/13/2016
ALS_K	498899	BALANCE	K-Balance-31	5/31/2016
ALS_K	499094	BALANCE	K-Balance-31	6/1/2016

lab lab_pkg anal_type anal_begun anal_completed analyst comments ALS_K K1605750 Convent 6/11/2016 6/11/2016

lab	lab_qc_batch	prep_date	extraction_date
ALS_K	50052	9	
ALS_K	49890	3	
ALS_K	50068	7	
ALS_K	49889	9	
ALS_K	49909	4	

lab	labqc_samp	qc_type	comments
ALS_K	K1605750-MB1	MethodBlank	
ALS_K	K1605750-MB2	MethodBlank	
ALS_K	K1605750-MB3	MethodBlank	
ALS_K	K1605750-MB4	MethodBlank	
ALS_K	K1605750-LCS1	LCS	
ALS_K	K1605750-LCS2	LCS	
ALS_K	K1605750-001MS	MatSpike	
ALS_K	K1605750-002MS	MatSpike	

lab	lab_pkg	anal_type	labsample	material_analyzed	method_code	analyte	meas_basislab_rep	meas_	value units	std_dev	detected	detection_limit quantification_	limit re	porting_l maximu	m_lab_flags comments	lab_qc_batch	lab_cal_batch
ALS_K	K1605750	Convent	K1605750-001	Water	SM5310C	DOC	Unfilt	1	0.53 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-002	Water	SM5310C	DOC	Unfilt	1	9.89 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-002	Water	SM2540C	TDS	Unfilt	1	115 mg/L		Υ	10	10	10		498903	498903
ALS_K	K1605750	Convent	K1605750-002	Water	SM5310C	Carbon_org	Unfilt	1	10.1 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-002	Water	SM2540D	TSS	Unfilt	1	10 mg/L		Υ	5	5	5		498899	498899
ALS_K	K1605750	Convent	K1605750-003	Water	SM5310C	DOC	Unfilt	1	9.5 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-003	Water	SM2540C	TDS	Unfilt	1	136 mg/L		Υ	10	10	10		499094	499094
ALS_K	K1605750	Convent	K1605750-003	Water	SM5310C	Carbon_org	Unfilt	1	10.3 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-003	Water	SM2540D	TSS	Unfilt	1	13 mg/L		Υ	5	5	5		498899	498899
ALS_K	K1605750	Convent	K1605750-004	Water	SM5310C	DOC	Unfilt	1	9.55 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-004	Water	SM2540C	TDS	Unfilt	1	145 mg/L		Υ	10	10	10		499094	499094
ALS_K	K1605750	Convent	K1605750-004	Water	SM5310C	Carbon_org	Unfilt	1	10.1 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-004	Water	SM2540D	TSS	Unfilt	1	14 mg/L		Υ	5	5	5		498899	498899
ALS_K	K1605750	Convent	K1605750-005	Water	SM5310C	DOC	Unfilt	1	14.1 mg/L		Υ	0.2	1	1		500529	500529
ALS_K	K1605750	Convent	K1605750-005	Water	SM2540C	TDS	Unfilt	1	506 mg/L		Υ	10	10	10		499094	499094
ALS_K	K1605750	Convent	K1605750-005	Water	SM5310C	Carbon_org	Unfilt	1	7.48 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-005	Water	SM2540D	TSS	Unfilt	1	38.5 mg/L		Υ	5	5	5		498899	498899
ALS_K	K1605750	Convent	K1605750-001DUP	Water	SM5310C	DOC	Unfilt	2	0.34 mg/L		Υ	0.07	0.5	0.5	J,*	500529	500529
ALS_K	K1605750	Convent	K1605750-002DUP	Water	SM5310C	DOC	Unfilt	2	9.64 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-002DUP	Water	SM5310C	Carbon_org	Unfilt	2	9.95 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-003DUP	Water	SM5310C	DOC	Unfilt	2	9.51 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-003DUP	Water	SM5310C	Carbon_org	Unfilt	2	9.72 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-004DUP	Water	SM5310C	DOC	Unfilt	2	9.6 mg/L		Υ	0.07	0.5	0.5		500529	500529
ALS_K	K1605750	Convent	K1605750-004DUP	Water	SM5310C	Carbon_org	Unfilt	2	9.82 mg/L		Υ	0.07	0.5	0.5		500687	500687
ALS_K	K1605750	Convent	K1605750-005DUP	Water	SM5310C	DOC	Unfilt	2	14 mg/L		Υ	0.2	1	1		500529	500529
ALS_K	K1605750	Convent	K1605750-005DUP	Water	SM5310C	Carbon_org	Unfilt	2	7.26 mg/L		Υ	0.07	0.5	0.5		500687	500687

lab	labsample	study_id	sample_no	labqc_samp	receipt_date	coc_id
ALS_K	K1605750-001	C643-0903	SW083	NA	5/28/2016	5
ALS_K	K1605750-002	C643-0903	SW062	NA	5/28/2016	5
ALS_K	K1605750-003	C643-0903	SW059	NA	5/28/2016	5
ALS_K	K1605750-004	C643-0903	SW068	NA	5/28/2016	5
ALS_K	K1605750-005	C643-0903	SW071	NA	5/28/2016	5
ALS_K	K1605750-MB1			K1605750-MB1	NA	NA
ALS_K	K1605750-MB2			K1605750-MB2	NA	NA
ALS_K	K1605750-MB3			K1605750-MB3	NA	NA
ALS_K	K1605750-MB4			K1605750-MB4	NA	NA
ALS_K	K1605750-LCS1			K1605750-LCS1	NA	NA
ALS_K	K1605750-LCS2			K1605750-LCS2	NA	NA
ALS_K	K1605750-001DUP	C643-0903	SW083	NA	5/28/2016	5
ALS_K	K1605750-002DUP	C643-0903	SW062	NA	5/28/2016	5
ALS_K	K1605750-003DUP	C643-0903	SW059	NA	5/28/2016	5
ALS_K	K1605750-004DUP	C643-0903	SW068	NA	5/28/2016	5
ALS_K	K1605750-005DUP	C643-0903	SW071	NA	5/28/2016	5
ALS_K	K1605750-001MS	C643-0903	SW083	K1605750-001MS	5/28/2016	5
ALS_K	K1605750-002MS	C643-0903	SW062	K1605750-002MS	5/28/2016	5

lab	lab_qc_batch	lcs_id	analyte	meas_basis	lcs_type	true_lcs_conc	meas_lcs_conc	lcs_lowlimit	lcs_highlimit units	conc_qual
ALS_K	50052	9 K1605750-LCS1	DOC	Unfilt	L	24	24.1	83	117 mg/L	
ALS_K	49890	3 K1605750-LCS1	TDS	Unfilt	L	714	702	85	115 mg/L	
ALS_K	50068	7 K1605750-LCS1	Carbon_org	Unfilt	L	24	24.2	83	117 mg/L	
ALS_K	49889	9 K1605750-LCS1	TSS	Unfilt	L	141	138	85	115 mg/L	
ALS_K	49909	4 K1605750-LCS2	TDS	Unfilt	L	714	710	85	115 mg/L	

lab	lab_qc_batch	labsample	method_code	analyte	meas_basis	spike_no	samp_conc	initial_qual	spike_added	spiked_conc	final_qual	lab_flags	units
ALS_K	50052	29 K1605750-001MS	SM5310C	DOC	Unfilt		1 0.5	3	2	.5 25	.9		mg/L
ALS_K	50068	37 K1605750-002MS	SM5310C	Carbon_org	Unfilt		1 10	.1	2	.5 36	.4		mg/L

lab	lab_qc_batch labsample	method_code	analyte	lab_rep concentration retention_time	units	lab_flags
ALS_K	500529 K1605750-MB1	SM5310C	DOC	1 0.07	mg/L	U
ALS_K	498903 K1605750-MB1	SM2540C	TDS	1	mg/L	U
ALS_K	500687 K1605750-MB1	SM5310C	Carbon_org	1 0.07	mg/L	U
ALS_K	498899 K1605750-MB1	SM2540D	TSS	1	mg/L	U
ALS_K	498903 K1605750-MB2	SM2540C	TDS	1	mg/L	U
ALS_K	498899 K1605750-MB2	SM2540D	TSS	1	mg/L	U
ALS_K	499094 K1605750-MB3	SM2540C	TDS	1	mg/L	U
ALS_K	499094 K1605750-MB4	SM2540C	TDS	1	mg/L	U

method_code description

EPA1613B EPA Standard Method for High Resolution Analysis of Dioxins/Furans in Water

lab_prep_method lab_leach_method lab_extraction_method lab_anal_method EPA1613B

lab	lab_pkg	anal_type	labsample	material_analyzed	method_code	analyte
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	2378TetDioxin
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	2378TetFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	PenClDiBzFuran

analyte_name	cas_rn	meas_basis	lab_rep	meas_value	units	std_dev
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1	5	ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1	5	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1	25	ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1	5	ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1	5	ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1	25	ng/kg	

detected	detection_limit	quantification_limit	reporting_limit	maximum_limit	lab_flags
N	1.83	5	5		U
N	2.6	5	5		U
N	0.82	25	25		U
N	1.83	5	5		U
N	2.6	5	5		U
N	0.825	25	25		U

comments lab_qc_batch lab_cal_batch original_lab_result lab_conc_qual sig_figs estimated

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262304 P603991.0282

rejected greater_than tic qa_level validator_flags reportable principal_doc

lab	lab_pkg	anal_type	labsample	material_analyzed
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	E1600282-006	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-01	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-01	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-02	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-02	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-03	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-03	NonAq Liquid

method_code	date_extracted	date_analyzed	mass_gm	vol_ml
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		

lablab_cal_batchinstrument_typeinstrument_idinitial_cal_dateALS_EP603991.0282HRGC/HRMSE-HRMS-086/25/2016

lab	lab_pkg	anal_type	anal_begun	anal_completed	analyst
ALS_E	E1600282	DioxFuran	6/25/2016	6/25/2016	
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	6/25/2016	6/25/2016	

comments

lablab_qc_batchprep_dateextraction_dateALS_E2623045/26/20165/26/2016

lablabqc_sampqc_typecommentsALS_EEQ1600219-01MethodBlankALS_EEQ1600219-02LCSALS_EEQ1600219-03LCSDUP

lab	lab_qc_batch	lcs_id	analyte	meas_basis	lcs_type	true_lcs_conc
ALS_E	262304	EQ1600219-02	2378TetDioxin	WetWt	L	95.9
ALS_E	262304	EQ1600219-02	2378TetFuran	WetWt	L	95.9
ALS_E	262304	EQ1600219-02	23478PenFuran	WetWt	L	479
ALS_E	262304	EQ1600219-03	2378TetDioxin	WetWt	L	98.4
ALS_E	262304	EQ1600219-03	2378TetFuran	WetWt	L	98.4
ALS_E	262304	EQ1600219-03	23478PenFuran	WetWt	L	492

meas_lcs_conc	lcs_lowlimit	lcs_highlimit	units	conc_qual
82.2	67	158	ng/kg	
86.1	75	158	ng/kg	
484	68	160	ng/kg	
83.1	67	158	ng/kg	
94.1	75	158	ng/kg	
478	68	160	ng/kg	

lablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conclablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conc

initial_qualspike_addedspiked_concfinal_quallab_flagsunitsinitial_qualspike_addedspiked_concfinal_quallab_flagsunits

lab	lab_qc_batch	labsample	method_code	analyte	lab_rep	concentration
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	23478PenFuran	1	1
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	PenClDiBzFuran	1	1.44

retention_time units lab_flags

ng/kg U ng/kg U ng/kg JK ng/kg U ng/kg U ng/kg J

	labsample	method_code	surrogate
-	4 E1600282-006		^1,2,3,4-Tetrachlorodibenzofuran-C13
-	4 E1600282-006		13C2378TCDD
-	4 E1600282-006	EPA1613B	13C2378TCDF
-	4 E1600282-006	EPA1613B	13C12378PeCDF
ALS_E 26230	4 E1600282-006	EPA1613B	13C23478PeCDF
—	4 E1600282-006	EPA1613B	13C123789HxCDF
ALS_E 26230	4 E1600282-006	EPA1613B	37CI4-2378TCDD
ALS_E 26230	4 EQ1600219-01	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C2378TCDD
—	4 EQ1600219-01	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	37CI4-2378TCDD
ALS_E 26230	4 EQ1600219-02	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C2378TCDD
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	37CI4-2378TCDD
ALS_E 26230	4 EQ1600219-03	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C2378TCDD
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	37CI4-2378TCDD

meas basis	column_no	lab rep	recoverv	out flag
WetWt	PR	1	,	N
WetWt	PR	1	28	N
WetWt	PR	1	25	N
WetWt	PR	1	34	N
WetWt	PR	1	35	N
WetWt	PR	1	40	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	44	N
WetWt	PR	1	41	N
WetWt	PR	1	41	N
WetWt	PR	1	39	N
WetWt	PR	1	37	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	47	N
WetWt	PR	1	45	N
WetWt	PR	1	45	N
WetWt	PR	1	43	N
WetWt	PR	1	44	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	38	N
WetWt	PR	1	36	N
WetWt	PR	1	42	N
WetWt	PR	1	41	N
WetWt	PR	1	38	N
WetWt	PR	1		N

lab	labsample	study_id	sample_no	labqc_samp	receipt_date	coc_id
ALS_E	E1600282-006	150557-01.01	04052016SJPW10	NA	4/8/2016	
ALS_E	EQ1600219-01			EQ1600219-01	NA	NA
ALS_E	EQ1600219-02			EQ1600219-02	NA	NA
ALS_E	EQ1600219-03			EQ1600219-03	NA	NA

method_code description

EPA1613B EPA Standard Method for High Resolution Analysis of Dioxins/Furans in Water

lab_prep_method lab_leach_method lab_extraction_method lab_anal_method EPA1613B

lab	lab_pkg	anal_type	labsample	material_analyzed	method_code	analyte
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	2378TetDioxin
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	2378TetFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid	EPA1613B	PenClDiBzFuran

analyte_name	cas_rn	meas_basis	lab_rep	meas_value	units	std_dev
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1	5	ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1	5	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1	25	ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1	5	ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1	5	ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1	25	ng/kg	

detected	detection_limit	quantification_limit	reporting_limit	maximum_limit	lab_flags
N	1.83	5	5		U
N	2.6	5	5		U
N	0.82	25	25		U
N	1.83	5	5		U
N	2.6	5	5		U
N	0.825	25	25		U

comments lab_qc_batch lab_cal_batch original_lab_result lab_conc_qual sig_figs estimated

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262304 P603991.0282

rejected greater_than tic qa_level validator_flags reportable principal_doc

lab	lab_pkg	anal_type	labsample	material_analyzed
ALS_E	E1600282	DioxFuran	E1600282-006	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	E1600282-006	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-01	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-01	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-02	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-02	NonAq Liquid
ALS_E	E1600282	DioxFuran	EQ1600219-03	NonAq Liquid
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	EQ1600219-03	NonAq Liquid

method_code	date_extracted	date_analyzed	mass_gm	vol_ml
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		

lablab_cal_batchinstrument_typeinstrument_idinitial_cal_dateALS_EP603991.0282HRGC/HRMSE-HRMS-086/25/2016

lab	lab_pkg	anal_type	anal_begun	anal_completed	analyst
ALS_E	E1600282	DioxFuran	6/25/2016	6/25/2016	
ALS_E	E1600282	1,2,3,4-Tetrachlorodibenzofuran-C13	6/25/2016	6/25/2016	

comments

lablab_qc_batchprep_dateextraction_dateALS_E2623045/26/20165/26/2016

lablabqc_sampqc_typecommentsALS_EEQ1600219-01MethodBlankALS_EEQ1600219-02LCSALS_EEQ1600219-03LCSDUP

lab	lab_qc_batch	lcs_id	analyte	meas_basis	lcs_type	true_lcs_conc
ALS_E	262304	EQ1600219-02	2378TetDioxin	WetWt	L	95.9
ALS_E	262304	EQ1600219-02	2378TetFuran	WetWt	L	95.9
ALS_E	262304	EQ1600219-02	23478PenFuran	WetWt	L	479
ALS_E	262304	EQ1600219-03	2378TetDioxin	WetWt	L	98.4
ALS_E	262304	EQ1600219-03	2378TetFuran	WetWt	L	98.4
ALS_E	262304	EQ1600219-03	23478PenFuran	WetWt	L	492

meas_lcs_conc	lcs_lowlimit	lcs_highlimit	units	conc_qual
82.2	67	158	ng/kg	
86.1	75	158	ng/kg	
484	68	160	ng/kg	
83.1	67	158	ng/kg	
94.1	75	158	ng/kg	
478	68	160	ng/kg	

lablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conclablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conc

initial_qualspike_addedspiked_concfinal_quallab_flagsunitsinitial_qualspike_addedspiked_concfinal_quallab_flagsunits

lab	lab_qc_batch	labsample	method_code	analyte	lab_rep	concentration
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	23478PenFuran	1	1
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	PenClDiBzFuran	1	1.44

retention_time units lab_flags

ng/kg U ng/kg U ng/kg JK ng/kg U ng/kg U ng/kg J

	labsample	method_code	surrogate
-	4 E1600282-006		^1,2,3,4-Tetrachlorodibenzofuran-C13
-	4 E1600282-006		13C2378TCDD
-	4 E1600282-006	EPA1613B	13C2378TCDF
-	4 E1600282-006	EPA1613B	13C12378PeCDF
ALS_E 26230	4 E1600282-006	EPA1613B	13C23478PeCDF
—	4 E1600282-006	EPA1613B	13C123789HxCDF
ALS_E 26230	4 E1600282-006	EPA1613B	37CI4-2378TCDD
-	4 EQ1600219-01		^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C2378TCDD
—	4 EQ1600219-01	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-01	EPA1613B	37CI4-2378TCDD
ALS_E 26230	4 EQ1600219-02	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C2378TCDD
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-02	EPA1613B	37CI4-2378TCDD
ALS_E 26230	4 EQ1600219-03	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C2378TCDD
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C2378TCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C12378PeCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C23478PeCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	13C123789HxCDF
ALS_E 26230	4 EQ1600219-03	EPA1613B	37CI4-2378TCDD

meas basis	column_no	lab rep	recoverv	out flag
WetWt	PR	1	,	N
WetWt	PR	1	28	N
WetWt	PR	1	25	N
WetWt	PR	1	34	N
WetWt	PR	1	35	N
WetWt	PR	1	40	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	44	N
WetWt	PR	1	41	N
WetWt	PR	1	41	N
WetWt	PR	1	39	N
WetWt	PR	1	37	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	47	N
WetWt	PR	1	45	N
WetWt	PR	1	45	N
WetWt	PR	1	43	N
WetWt	PR	1	44	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	38	N
WetWt	PR	1	36	N
WetWt	PR	1	42	N
WetWt	PR	1	41	N
WetWt	PR	1	38	N
WetWt	PR	1		N

Analytical Results Summary

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

EQ1600219-01 / MB / NonAq Liquid / A	is Received / Tie			File Name: P603993		MB File Name: P603993 CCV	47 Spec: 1373 File Name: P60399	91
<u>Surrogates</u>	Raw Result	Final Result	Qualifiers	Analysis Date/Time			Picked?	RptLis.
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	440.214 pg	22 Percent	Y*	6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	412.855 pg	21 Percent	Y*	6/25/16 19:48:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	413.012 pg	21 Percent	Y*	6/25/16 19:48:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	393.545 pg	20 Percent	Y*	6/25/16 19:48:00				
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	744.801 pg	19 Percent	Y*	6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0.500 pg	Percent		6/25/16 19:48:00				
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptLis.
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	0 pg	0 ng/Kg	U	6/25/16 19:48:00	2.26	0.599	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0 pg	0 ng/Kg	U	6/25/16 19:48:00	2.26	0.795	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	2.215 pg	1.00 ng/Kg	JK	6/25/16 19:48:00	11.3	0.388	Y	Y
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 19:48:00	2.26	0.599	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	TT	6/25/16 19:48:00	2.26	0.795	Y	Y
retractification (repr), rotar	o ps	U lig/ixg	U	0/23/10 17.40.00	2.20	0.173	I	1
Pentachlorodibenzofurans (PeCDF), Total	3.186 pg	1.44 ng/Kg	J Prep	6/25/16 19:48:00 Spiking Solut	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total EQ1600219-02 / LCS / NonAq Liquid /	3.186 pg As Received / Tie	1.44 ng/Kg er IV / MDL=Y	J Prep	6/25/16 19:48:00 Spiking Solut File Name: P604002	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / A	3.186 pg As Received / Tie	1.44 ng/Kg	J Prep Oualifiers	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / . Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13	3.186 pg As Received / Tie Raw Result 0 pg	1.44 ng/Kg er IV / MDL=Y <u>Final Result</u>	J Prep Qualifiers	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	3.186 pg As Received / Ti <i>Raw Result</i> 0 pg 469.689 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent	J Prep Qualifiers Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13	3.186 pg As Received / Ti Raw Result 0 pg 469.689 pg 448.193 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent	J Prep Qualifiers Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total 2Q1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13	3.186 pg As Received / Ti Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent	J Prep Qualifiers Y Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent	Prep Oualifiers Y Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent 22 Percent	Prep Qualifiers Y Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent	Prep Qualifiers Y Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3	0.378 Rpt. List: 157	Y 47 Spec: 1373 File Name: P60399 **Picked?**	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Augurogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 23 Percent 23 Percent 21 Percent 22 Percent Percent Final Result	Prep Qualifiers Y Y Y	Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3 ions Adj. MRL	0.378 Rpt. List: 157 MB File Name: P603993 CCV	Y 47 Spec: 1373 File Name: P60399 **Picked?** **Picked?**	Y 34 ver. 11 RptLis
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent 22 Percent	Prep Oualifiers Y Y Y Y	Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	ions	0.378 Rpt. List: 157 MB File Name: P603993 CCV	Y 47 Spec: 1373 File Name: P60399 **Picked?**	Y 34 ver.
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Augure Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF)	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg	Prep Oualifiers Y Y Y Y	Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	11.3 ions Adj. MRL	0.378 Rpt. List: 157 MB File Name: P603993 CCV Adj. MDL 0.446 0.574	Y 47 Spec: 1373 File Name: P60399 **Picked?** **Picked?**	Y 34 ver. 11 RptLis
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF) 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg 1009.184 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg 484 ng/Kg	Prep Oualifiers Y Y Y Y	Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00	11.3 ions Adj. MRL 2.40 2.40 12.0	0.378 Rpt. List: 157 MB File Name: P603993 CCV Adj. MDL 0.446 0.574 0.862	Y 47 Spec: 1373 File Name: P60399 **Picked?** **Picked?** **Picked?** **Y **Y **Y	Y 34 ver. 11 RptLi: Y Y Y
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF)	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg 1009.184 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg	Prep Oualifiers Y Y Y Y	6/25/16 19:48:00 Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00	11.3 ions Adj. MRL 2.40	0.378 Rpt. List: 157 MB File Name: P603993 CCV Adj. MDL 0.446 0.574	Y 47 Spec: 1373 File Name: P60399	Y 34 ver. Participal ReptLis ReptLis Y Y
Pentachlorodibenzofurans (PeCDF), Total Q1600219-02 / LCS / NonAq Liquid / Augurogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF) 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	3.186 pg As Received / Tie Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg 1009.184 pg	1.44 ng/Kg er IV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg 484 ng/Kg	Prep Oualifiers Y Y Y Y	Spiking Solut File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00	11.3 ions Adj. MRL 2.40 2.40 12.0	0.378 Rpt. List: 157 MB File Name: P603993 CCV Adj. MDL 0.446 0.574 0.862	Y 47 Spec: 1373 File Name: P60399 **Picked?** **Picked?** **Picked?** **Y **Y **Y	Y 34 ver. 11 RptLis Y Y Y

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

EQ1600219-02 / LCS / NonAq Liquid / As Received / Tier IV / MDL=Y		<u>Prep</u>	Spiking Solutions File Name: P604002		Rpt. List: 15747 Spec: 13734 ver MB File Name: P603993 CCV File Name: P603991			
EQ1600219-03 / DLCS / NonAq Liquid	/ As Received / Ti	er IV / MDL=Y	<u>Prep</u>	Spiking Solut File Name: P604003		Rpt. List: 15747 S J MB File Name: P603993 CCV File Na		
Surrogates	Raw Result	Final Result	Qualifiers	Analysis Date/Time			Picked?	RptLis
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/26/16 03:58:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	380.653 pg	19 Percent	Y*	6/26/16 03:58:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	364.866 pg	18 Percent	Y*	6/26/16 03:58:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	423.579 pg	21 Percent	Y	6/26/16 03:58:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	407.906 pg	20 Percent	Y	6/26/16 03:58:00				
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	758.698 pg	19 Percent	Y	6/26/16 03:58:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0 pg	0 Percent		6/26/16 03:58:00				
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptLis
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	168.822 pg	83.1 ng/Kg		6/26/16 03:58:00	6.46	6.46	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	191.292 pg	94.1 ng/Kg		6/26/16 03:58:00	6.40	6.40	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	972.275 pg	478 ng/Kg		6/26/16 03:58:00	12.3	4.39	Y	Y
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	168.822 pg	83.1 ng/Kg		6/26/16 03:58:00	6.46	6.46	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	191.292 pg	94.1 ng/Kg		6/26/16 03:58:00	6.40	6.40	Y	Y
Pentachlorodibenzofurans (PeCDF), Total	1867.738 pg	919 ng/Kg		6/26/16 03:58:00	12.3	4.33	Y	Y
.1600282-006 / 04052016SJPW10 / Non			16	Spiking Solut File Name: P603994		Rpt. List: 15747 S ₁ MB File Name: P603993 CCV File Nam	me: P60399	1
Surrogates	Raw Result	<u>Final Result</u>		Analysis Date/Time			Picked?	RptLis
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/25/16 20:37:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	280.969 pg	14 Percent		6/25/16/20:37:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	252.203 pg	13 Percent		6/25/16 20:37:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	344.201 pg	17 Percent	Y	6/25/16 20:37:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	350.773 pg	18 Percent	Y	6/25/16 20:37:00				
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	798.042 pg	20 Percent	Y	6/25/16 20:37:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0.274 pg	Percent		6/25/16 20:37:00				
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptLi:
$2,\!3,\!7,\!8\text{-}Tetrachlorodibenzo-p-diox in (TCDD}$	0 pg	0 ng/Kg	U	6/25/16 20:37:00	5.00	1.83	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0 pg	0 ng/Kg	U	6/25/16 20:37:00	5.00	2.60	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0 pg	0 ng/Kg	U	6/25/16 20:37:00	25.0	0.820	Y	Y
	it has not yet been deterr	minad						

maleures I mai result is not yet adjusted for bonds because it mas not yet been determined.

Analytical Results Summary

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

E1600282-006 / 04052016SJPW10 / Non.	Aq Liquid / As Re	ceived / Tier IV / I	M Prep	Spiking Solut	<u>ions</u>	Rpt. List	: 15747 Spec: 1373	34 ver. 7
				File Name: P603994		MB File Name: P603993	CCV File Name: P60399	91
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptList?
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 20:37:00	5.00	1.83	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	U	6/25/16 20:37:00	5.00	2.60	Y	Y
Pentachlorodibenzofurans (PeCDF), Total	0 pg	0 ng/Kg	U	6/25/16 20:37:00	25.0	0.825	Y	Y



lab labsampl	e study_id	sample_no	labqc_samp	receipt_date	coc_id
ALS_E E1600326	6-001 150557-01.01	03162016SJGW1	NA	4/8/2016	
ALS_E E1600326	6-002 150557-01.01	04072016SJGW1	NA	4/8/2016	
ALS_E E1600326	6-003 150557-01.01	04072016SJGW2	NA	4/8/2016	
ALS_E E1600326	6-004 150557-01.01	04072016SJGW10	NA	4/8/2016	
ALS_E E1600326	6-005 150557-01.01	04072016SJGW11	NA	4/8/2016	
ALS_E E1600326	6-006 150557-01.01	04072016SJGW12	NA	4/8/2016	
ALS_E E1600326	6-007 150557-01.01	04072016SJGW13	NA	4/8/2016	
ALS_E E1600326	6-008 150557-01.01	04072016SJGW14	NA	4/8/2016	
ALS_E E1600326	6-009 150557-01.01	04072016SJGW15	NA	4/8/2016	
ALS_E EQ16002	19-01		EQ1600219-01	NA	NA
ALS_E EQ160022	20-01		EQ1600220-01	NA	NA
ALS_E EQ16002	19-02		EQ1600219-02	NA	NA
ALS_E EQ160022	20-02		EQ1600220-02	NA	NA
ALS_E EQ16002	19-03		EQ1600219-03	NA	NA
ALS_E EQ160022	20-03		EQ1600220-03	NA	NA

method_code description

EPA1613B EPA Standard Method for High Resolution Analysis of Dioxins/Furans in Water

lab_prep_method lab_leach_method lab_extraction_method lab_anal_method EPA1613B

lab lab_pkg	anal type	labsample	material_analyzed	method_code	analyte
ALS_E E1600326		-	_	EPA1613B	2378TetDioxin
ALS_E E1600326			•	EPA1613B	2378TetFuran
ALS_E E1600326		E1600326-001		EPA1613B	23478PenFuran
ALS_E E1600326		E1600326-001		EPA1613B	TetClDiBzDioxin
ALS_E E1600326		E1600326-001		EPA1613B	TetClDiBzFuran
ALS E E1600326		E1600326-001		EPA1613B	PenClDiBzFuran
ALS E E1600326		E1600326-002		EPA1613B	2378TetDioxin
ALS E E1600326		E1600326-002		EPA1613B	2378TetFuran
ALS E E1600326		E1600326-002		EPA1613B	23478PenFuran
ALS E E1600326		E1600326-002		EPA1613B	TetClDiBzDioxin
ALS E E1600326		E1600326-002		EPA1613B	TetClDiBzFuran
ALS E E1600326		E1600326-002	• •	EPA1613B	PenClDiBzFuran
ALS E E1600326		E1600326-003		EPA1613B	2378TetDioxin
ALS E E1600326		E1600326-003		EPA1613B	2378TetFuran
ALS E E1600326		E1600326-003	• •	EPA1613B	23478PenFuran
ALS_E E1600326		E1600326-003		EPA1613B	TetClDiBzDioxin
ALS E E1600326		E1600326-003	•	EPA1613B	TetClDiBzFuran
ALS E E1600326		E1600326-003		EPA1613B	PenClDiBzFuran
ALS_E E1600326		E1600326-004		EPA1613B	2378TetDioxin
ALS_E E1600326		E1600326-004	• •	EPA1613B	2378TetFuran
ALS E E1600326		E1600326-004		EPA1613B	23478PenFuran
ALS E E1600326		E1600326-004		EPA1613B	TetClDiBzDioxin
ALS_E E1600326		E1600326-004		EPA1613B	TetClDiBzFuran
ALS E E1600326		E1600326-004		EPA1613B	PenClDiBzFuran
ALS_E E1600326		E1600326-005	•	EPA1613B	2378TetDioxin
ALS_E E1600326				EPA1613B	2378TetFuran
ALS_E E1600326		E1600326-005		EPA1613B	23478PenFuran
ALS_E E1600326		E1600326-005	· ·	EPA1613B	TetClDiBzDioxin
ALS_E E1600326		E1600326-005		EPA1613B	TetClDiBzFuran
ALS_E E1600326		E1600326-005		EPA1613B	PenClDiBzFuran
ALS E E1600326	DioxFuran	E1600326-006		EPA1613B	2378TetDioxin
ALS_E E1600326	DioxFuran	E1600326-006	NonAq Liquid	EPA1613B	2378TetFuran
ALS_E E1600326	DioxFuran	E1600326-006	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E E1600326	DioxFuran	E1600326-006	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E E1600326	DioxFuran	E1600326-006	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E E1600326				EPA1613B	PenClDiBzFuran
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	2378TetDioxin
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	2378TetFuran
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E E1600326	DioxFuran	E1600326-007	NonAq Liquid	EPA1613B	PenClDiBzFuran
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	2378TetDioxin
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	2378TetFuran
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E E1600326	DioxFuran	E1600326-008	NonAq Liquid	EPA1613B	PenClDiBzFuran
ALS_E E1600326		E1600326-009	• •	EPA1613B	2378TetDioxin
ALS_E E1600326	DioxFuran	E1600326-009	NonAq Liquid	EPA1613B	2378TetFuran

ALS_E E1600326	DioxFuran	E1600326-009	NonAq Liquid	EPA1613B	23478PenFuran
ALS_E E1600326	DioxFuran	E1600326-009	NonAq Liquid	EPA1613B	TetClDiBzDioxin
ALS_E E1600326	DioxFuran	E1600326-009	NonAq Liquid	EPA1613B	TetClDiBzFuran
ALS_E E1600326	DioxFuran	E1600326-009	NonAq Liquid	EPA1613B	PenClDiBzFuran

analyte_name	cas_rn	meas_basis	lab_rep	meas_value	units	std_dev
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1	5	ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1	5	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1	25	ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1	5	ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1	5	ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1	25	ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1	5	ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1	5	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1	25	ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1	5	ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1	5	ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1	25	ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1		ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016		1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1		ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143		1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154		1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016		1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319		1		ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314		1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575		1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1		ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1	23.7	ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1		ng/kg	
2,3,4,7,8-Pentachlorodibenzofuran	57117314	WetWt	1		ng/kg	
Tetrachlorodibenzodioxin (Total)	41903575	WetWt	1		ng/kg	
Tetrachlorodibenzofuran (Total)	30402143	WetWt	1		ng/kg	
Pentachlorodibenzofuran (Total)	30402154	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzodioxin	1746016	WetWt	1		ng/kg	
2,3,7,8-Tetrachlorodibenzofuran	51207319	WetWt	1		ng/kg	

2,3,4,7,8-Pentachlorodibenzofuran	57117314 WetWt	1	25 ng/kg
Tetrachlorodibenzodioxin (Total)	41903575 WetWt	1	5 ng/kg
Tetrachlorodibenzofuran (Total)	30402143 WetWt	1	5 ng/kg
Pentachlorodibenzofuran (Total)	30402154 WetWt	1	25 ng/kg

		quantification_limit	-	maximum_limit	
N	1.11	5	5		U
N	1.54	5	5		U
N	0.69	25	25		U
N	1.11	5	5		U
N	1.54	5	5		U
N	0.668	25	25		U
N	0.88	5	5		U
N	1.38	5	5		U
N	0.665	25	25		U
N	0.88	5	5		U
N	1.38	5	5		U
N	0.647	25	25		U
N	1.08	5	5		U
N	1.45	5	5		U
N	0.838	25	25		U
N	1.08	5	5		U
N	1.45	5	5		U
N	0.825	25	25		U
N	1.59	5	5		U
N	1.89	5	5		U
N	0.936	25	25		U
N	1.59	5	5		U
N	1.89	5	5		U
N	0.907	25	25		U
N	1.71	5	5		U
N	2.4	5	5		U
N	1.04	25	25		U
N	1.71	5	5		U
N	2.4	5	5		U
N	1	25	25		U
N	1.27	5	5		U
N	1.72	5	5		U
N	0.821	25	25		U
N	1.27	5	5		U
N	1.72		5		U U
N N	0.796 21.4	25 21.4	25 21.4		U
N	23.7	23.7	23.7		U
N	12.9	25.7 25	25.7 25		U
N	21.4	21.4	21.4		U
N	23.7	23.7	23.7		U
N	12.5	25.7	25.7		U
N N	12.5	11.3	11.3		U
N	12.6	12.6	12.6		U
N	5.77	25	25		U
N	11.3	11.3	11.3		U
N	12.6	12.6	12.6		U
N	5.59	25	25		U
N	1.28	5	5		U
N	1.49	5	5		U
IN	1.49	ວ	5		J

N	0.78	25	25	U
N	1.28	5	5	U
N	1.49	5	5	U
N	0.756	25	25	U

comments lab_qc_batch lab_cal_batch original_lab_result lab_conc_qual sig_figs estimated

262304 P603991.0326

202304 1 003331.0320

262304 P603991.0326

262305 P603991.0326

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262305 P603991.0326

262305 P604006.0326

62305 P604006.0326 262305 P604006.0326 262305 P604006.0326 rejected greater_than tic qa_level validator_flags reportable principal_doc

LS_E E1600326 DioxFu LS E E1600326 1.2.3.4		labsample	material_analyzed
LS E E1600326 1.2.3.4	ran	E1600326-001	NonAq Liquid
	-Tetrachlorodibenzofuran-C13	E1600326-001	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-002	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-002	NonAq Liquid
LS_E E1600326 DioxFu		E1600326-003	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-003	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-004	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-004	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-005	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-005	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-006	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-006	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-007	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-007	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-008	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-008	NonAq Liquid
LS_E E1600326 DioxFu	ran	E1600326-009	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	E1600326-009	NonAq Liquid
LS_E E1600326 DioxFu	ran	EQ1600219-01	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600219-01	NonAq Liquid
LS_E E1600326 DioxFu	ran	EQ1600220-01	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600220-01	NonAq Liquid
LS_E E1600326 DioxFu	ran	EQ1600219-02	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600219-02	NonAq Liquid
LS_E E1600326 DioxFu	ran	EQ1600220-02	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600220-02	NonAq Liquid
LS_E E1600326 DioxFu	ran	EQ1600219-03	NonAq Liquid
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600219-03	
LS_E E1600326 DioxFu		EQ1600220-03	
LS_E E1600326 1,2,3,4	-Tetrachlorodibenzofuran-C13	EQ1600220-03	NonAq Liquid

method code	date extracted	date_analyzed	mass_gm	vol ml
EPA1613B	5/26/2016	6/25/2016		_
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/25/2016	6/25/2016		
EPA1613B	5/25/2016	6/25/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/26/2016	6/25/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/26/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		
EPA1613B	5/25/2016	6/26/2016		

lab	lab_cal_batch	instrument_type	instrument_id	initial_cal_date
ALS_E	P603991.0326	HRGC/HRMS	E-HRMS-08	6/25/2016
ALS_E	P604006.0326	HRGC/HRMS	E-HRMS-08	6/25/2016

lab	lab_pkg	anal_type	anal_begun	anal_completed	analyst
ALS_E	E1600326	DioxFuran	6/25/2016	6/25/2016	
ALS_E	E1600326	1,2,3,4-Tetrachlorodibenzofuran-C13	6/25/2016	6/25/2016	

comments

lab	lab_qc_batch	prep_date	extraction_date
ALS_E	262304	5/26/2016	5/26/2016
ALS_E	262305	5/25/2016	5/25/2016

 lab
 labqc_samp
 qc_type
 comments

 ALS_E
 EQ1600219-01
 MethodBlank

 ALS_E
 EQ1600220-01
 MethodBlank

 ALS_E
 EQ1600219-02
 LCS

 ALS_E
 EQ1600220-02
 LCS

 ALS_E
 EQ1600219-03
 LCSDUP

 ALS_E
 EQ1600220-03
 LCSDUP

lab	lab_qc_batch lcs_id	analyte	meas_basis	lcs_type	true_lcs_conc	meas_lcs_conc	lcs_lowlimit	lcs_highlimit units	conc_qual
ALS_E	262304 EQ1600219-02	2378TetDioxin	WetWt	L	95.9	82.2	67	158 ng/kg	
ALS_E	262304 EQ1600219-02	2378TetFuran	WetWt	L	95.9	86.1	75	158 ng/kg	
ALS_E	262304 EQ1600219-02	23478PenFuran	WetWt	L	479	484	68	160 ng/kg	
ALS_E	262305 EQ1600220-02	2378TetDioxin	WetWt	L	99.7	101	67	158 ng/kg	
ALS_E	262305 EQ1600220-02	2378TetFuran	WetWt	L	99.7	97.3	75	158 ng/kg	
ALS_E	262305 EQ1600220-02	23478PenFuran	WetWt	L	498	500	68	160 ng/kg	
ALS_E	262304 EQ1600219-03	2378TetDioxin	WetWt	L	98.4	83.1	67	158 ng/kg	
ALS_E	262304 EQ1600219-03	2378TetFuran	WetWt	L	98.4	94.1	75	158 ng/kg	
ALS_E	262304 EQ1600219-03	23478PenFuran	WetWt	L	492	478	68	160 ng/kg	
ALS_E	262305 EQ1600220-03	2378TetDioxin	WetWt	L	95.7	95.1	67	158 ng/kg	
ALS_E	262305 EQ1600220-03	2378TetFuran	WetWt	L	95.7	98.4	75	158 ng/kg	
ALS_E	262305 EQ1600220-03	23478PenFuran	WetWt	L	479	482	68	160 ng/kg	

lablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conclablab_qc_batchlabsamplemethod_codeanalytemeas_basisspike_nosamp_conc

initial_qualspike_addedspiked_concfinal_quallab_flagsunitsinitial_qualspike_addedspiked_concfinal_quallab_flagsunits

lab	lab_qc_batch	labsample	method_code	analyte	lab_rep	concentration
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	2378TetFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	23478PenFuran	1	0.388
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzDioxin	1	0.599
ALS_E	262304	EQ1600219-01	EPA1613B	TetClDiBzFuran	1	0.795
ALS_E	262304	EQ1600219-01	EPA1613B	PenClDiBzFuran	1	0.378
ALS_E	262305	EQ1600220-01	EPA1613B	2378TetDioxin	1	0.687
ALS_E	262305	EQ1600220-01	EPA1613B	2378TetFuran	1	0.684
ALS_E	262305	EQ1600220-01	EPA1613B	23478PenFuran	1	0.521
ALS_E	262305	EQ1600220-01	EPA1613B	TetClDiBzDioxin	1	0.687
ALS_E	262305	EQ1600220-01	EPA1613B	TetClDiBzFuran	1	0.684
ALS_E	262305	EQ1600220-01	EPA1613B	PenClDiBzFuran	1	0.504

retention_time units lab_flags

ng/kg U ng/kg U

ng/kg U
ng/kg U
ng/kg U
ng/kg U
ng/kg U
ng/kg U
ng/kg U
ng/kg U

ng/kg U ng/kg U ng/kg U

lab	lab_qc_batch	lahsamnle	method_code	surrogate
ALS_E	•	E1600326-001	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E		E1600326-001	EPA1613B	13C2378TCDD
ALS_E		E1600326-001	EPA1613B	13C2378TCDF
ALS_E	262304	E1600326-001	EPA1613B	13C12378PeCDF
ALS_E	262304	E1600326-001	EPA1613B	13C23478PeCDF
ALS_E	262304	E1600326-001	EPA1613B	13C123789HxCDF
ALS_E	262304	E1600326-001	EPA1613B	37Cl4-2378TCDD
ALS_E	262304	E1600326-002	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E	262304	E1600326-002	EPA1613B	13C2378TCDD
ALS_E	262304	E1600326-002	EPA1613B	13C2378TCDF
ALS_E		E1600326-002		13C12378PeCDF
ALS_E		E1600326-002		13C23478PeCDF
ALS_E		E1600326-002		13C123789HxCDF
ALS_E		E1600326-002		37Cl4-2378TCDD
ALS_E			EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E		E1600326-003		13C2378TCDD
ALS_E			EPA1613B	13C2378TCDF
ALS_E			EPA1613B	13C12378PeCDF
ALS_E		E1600326-003		13C23478PeCDF
ALS_E		E1600326-003		13C123789HxCDF
ALS_E		E1600326-003		37CI4-2378TCDD
ALS_E		E1600326-004		^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E		E1600326-004		13C2378TCDD
ALS_E		E1600326-004		13C2378TCDF
ALS_E		E1600326-004		13C12378PeCDF
ALS_E		E1600326-004		13C23478PeCDF
ALS_E			EPA1613B	13C123789HxCDF
ALS_E			EPA1613B	37CI4-2378TCDD
ALS_E			EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E			EPA1613B	13C2378TCDD
ALS_E			EPA1613B EPA1613B	13C2378TCDF
ALS_E ALS_E		E1600326-005		13C12378PeCDF 13C23478PeCDF
ALS_E		E1600326-005		13C123476F6CDF 13C123789HxCDF
ALS_E		E1600326-005		37CI4-2378TCDD
ALS_E		E1600326-006		^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E			EPA1613B	13C2378TCDD
ALS_E			EPA1613B	13C2378TCDF
ALS_E			EPA1613B	13C12378PeCDF
ALS_E		E1600326-006	EPA1613B	13C23478PeCDF
ALS_E		E1600326-006	EPA1613B	13C123789HxCDF
ALS E		E1600326-006	EPA1613B	37CI4-2378TCDD
ALS E		E1600326-007	EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E		E1600326-007	EPA1613B	13C2378TCDD
ALS_E		E1600326-007	EPA1613B	13C2378TCDF
ALS_E		E1600326-007	EPA1613B	13C12378PeCDF
ALS_E		E1600326-007	EPA1613B	13C23478PeCDF
ALS_E		E1600326-007	EPA1613B	13C123789HxCDF
ALS_E		E1600326-007	EPA1613B	37CI4-2378TCDD
ALS_E			EPA1613B	^1,2,3,4-Tetrachlorodibenzofuran-C13
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ALS E
             262305 E1600326-008 EPA1613B
                                               13C2378TCDD
ALS E
             262305 E1600326-008 EPA1613B
                                               13C2378TCDF
ALS_E
             262305 E1600326-008 EPA1613B
                                               13C12378PeCDF
ALS_E
             262305 E1600326-008 EPA1613B
                                               13C23478PeCDF
ALS E
             262305 E1600326-008 EPA1613B
                                               13C123789HxCDF
ALS_E
             262305 E1600326-008 EPA1613B
                                               37CI4-2378TCDD
ALS_E
             262305 E1600326-009 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS E
             262305 E1600326-009 EPA1613B
                                               13C2378TCDD
ALS E
             262305 E1600326-009 EPA1613B
                                               13C2378TCDF
ALS E
             262305 E1600326-009 EPA1613B
                                               13C12378PeCDF
ALS E
             262305 E1600326-009 EPA1613B
                                               13C23478PeCDF
ALS E
             262305 E1600326-009 EPA1613B
                                               13C123789HxCDF
ALS E
             262305 E1600326-009 EPA1613B
                                               37CI4-2378TCDD
ALS_E
             262304 EQ1600219-01 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E
             262304 EQ1600219-01 EPA1613B
                                               13C2378TCDD
ALS E
             262304 EQ1600219-01 EPA1613B
                                               13C2378TCDF
ALS_E
             262304 EQ1600219-01 EPA1613B
                                               13C12378PeCDF
ALS_E
             262304 EQ1600219-01 EPA1613B
                                               13C23478PeCDF
ALS E
             262304 EQ1600219-01 EPA1613B
                                               13C123789HxCDF
ALS E
             262304 EQ1600219-01 EPA1613B
                                               37CI4-2378TCDD
ALS E
             262305 EQ1600220-01 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS E
             262305 EQ1600220-01 EPA1613B
                                               13C2378TCDD
ALS E
             262305 EQ1600220-01 EPA1613B
                                               13C2378TCDF
ALS E
             262305 EQ1600220-01 EPA1613B
                                               13C12378PeCDF
ALS_E
             262305 EQ1600220-01 EPA1613B
                                               13C23478PeCDF
ALS_E
             262305 EQ1600220-01 EPA1613B
                                               13C123789HxCDF
ALS E
             262305 EQ1600220-01 EPA1613B
                                               37CI4-2378TCDD
ALS_E
             262304 EQ1600219-02 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E
             262304 EQ1600219-02 EPA1613B
                                               13C2378TCDD
ALS E
             262304 EQ1600219-02 EPA1613B
                                               13C2378TCDF
ALS_E
             262304 EQ1600219-02 EPA1613B
                                               13C12378PeCDF
                                               13C23478PeCDF
ALS_E
             262304 EQ1600219-02 EPA1613B
ALS E
             262304 EQ1600219-02 EPA1613B
                                               13C123789HxCDF
ALS_E
             262304 EQ1600219-02 EPA1613B
                                               37CI4-2378TCDD
ALS E
             262305 EQ1600220-02 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
             262305 EQ1600220-02 EPA1613B
ALS E
                                               13C2378TCDD
ALS_E
             262305 EQ1600220-02 EPA1613B
                                               13C2378TCDF
ALS E
             262305 EQ1600220-02 EPA1613B
                                               13C12378PeCDF
ALS E
             262305 EQ1600220-02 EPA1613B
                                               13C23478PeCDF
ALS_E
             262305 EQ1600220-02 EPA1613B
                                               13C123789HxCDF
ALS E
             262305 EQ1600220-02 EPA1613B
                                               37CI4-2378TCDD
ALS_E
             262304 EQ1600219-03 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS_E
             262304 EQ1600219-03 EPA1613B
                                               13C2378TCDD
ALS E
             262304 EQ1600219-03 EPA1613B
                                               13C2378TCDF
ALS_E
             262304 EQ1600219-03 EPA1613B
                                               13C12378PeCDF
ALS E
             262304 EQ1600219-03 EPA1613B
                                               13C23478PeCDF
ALS E
             262304 EQ1600219-03 EPA1613B
                                               13C123789HxCDF
ALS_E
             262304 EQ1600219-03 EPA1613B
                                               37CI4-2378TCDD
ALS E
             262305 EQ1600220-03 EPA1613B
                                               ^1,2,3,4-Tetrachlorodibenzofuran-C13
ALS E
             262305 EQ1600220-03 EPA1613B
                                               13C2378TCDD
ALS_E
             262305 EQ1600220-03 EPA1613B
                                               13C2378TCDF
```

ALS_E	262305 EQ1600220-03	EPA1613B	13C12378PeCDF
ALS_E	262305 EQ1600220-03	EPA1613B	13C23478PeCDF
ALS_E	262305 EQ1600220-03	EPA1613B	13C123789HxCDF
ALS_E	262305 EQ1600220-03	EPA1613B	37CI4-2378TCDD

	column_no	_	recovery	_
WetWt	PR	1		N
WetWt	PR	1	46	
WetWt	PR	1	44	
WetWt	PR	1	43	
WetWt	PR	1	41	N
WetWt	PR	1	40	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	44	N
WetWt	PR	1	42	N
WetWt	PR	1	44	N
WetWt	PR	1	42	N
WetWt	PR	1	45	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	43	N
WetWt	PR	1	41	N
WetWt	PR	1	43	N
WetWt	PR	1	41	N
WetWt	PR	1	43	N
WetWt	PR	1		N
WetWt	PR	1		N
WetWt	PR	1	35	
WetWt	PR	1	36	
WetWt	PR	1	43	
WetWt	PR	1	.0	N
WetWt	PR	1	46	
WetWt	PR	1	.0	N
WetWt	PR	1		N
WetWt	PR	1	30	
WetWt	PR	1	31	
WetWt	PR	1	37	
WetWt	PR	1	O.	N
WetWt	PR	1	43	
WetWt	PR	1	10	N
WetWt	PR	1		N
WetWt	PR	1	36	
WetWt	PR	1	38	
WetWt	PR	1	41	
WetWt	PR	1	71	N
WetWt	PR	1	42	
WetWt	PR	1	72	N
WetWt	PR	1		N
WetWt	PR	1	26	
WetWt	PR	1	28	
WetWt	PR	1	38	
WetWt	PR PR	1	38	N
		1	20	
WetWt	PR		36	
WetWt	PR	1		N
WetWt	PR	1		N

WetWt	PR	1	31 N
WetWt	PR	1	32 N
WetWt	PR	1	40 N
WetWt	PR	1	N
		1	37 N
WetWt	PR		
WetWt	PR	1	N
WetWt	PR	1	N
WetWt	PR	1	32 N
WetWt	PR	1	31 N
WetWt	PR	1	37 N
WetWt	PR	1	N
WetWt	PR	1	42 N
WetWt	PR	1	N.
WetWt	PR	1	N
		1	44 N
WetWt	PR		
WetWt	PR	1	41 N
WetWt	PR	1	41 N
WetWt	PR	1	39 N
WetWt	PR	1	37 N
WetWt	PR	1	N
WetWt	PR	1	N
WetWt	PR	1	27 N
WetWt	PR	1	26 N
WetWt	PR	1	26 N
WetWt	PR	1	N
WetWt	PR	1	30 N
WetWt	PR	1	JO N
WetWt	PR	1	N
WetWt	PR	1	47 N
WetWt	PR	1	45 N
WetWt	PR	1	45 N
WetWt	PR	1	43 N
WetWt	PR	1	44 N
WetWt	PR	1	N
WetWt	PR	1	N
WetWt	PR	1	31 N
WetWt	PR	1	30 N
WetWt	PR	1	34 N
WetWt	PR	1	N
WetWt	PR	1	39 N
WetWt	PR	1	N
WetWt	PR	1	N
WetWt	PR	1	38 N
WetWt	PR	1	36 N
WetWt	PR	1	42 N
WetWt	PR	1	41 N
WetWt	PR	1	38 N
WetWt	PR	1	Ν
WetWt	PR	1	Ν
WetWt	PR	1	32 N
WetWt	PR	1	30 N
******	1 11	1	JU 11

WetWt	PR	1	37 N
WetWt	PR	1	N
WetWt	PR	1	37 N
WetWt	PR	1	N

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

CQ1600219-01 / MB / NonAq Liquid / A			<u>Prep</u>	Spiking Solution File Name: P603993	<u>18</u>		Spec: 1373 e Name: P60399	1
<u>Surrogates</u>	Raw Result	<u>Final Result</u>	Qualifiers				<u>Picked?</u>	RptList
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	440.214 pg	22 Percent		6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	412.855 pg	21 Percent	Y*	6/25/16 19:48:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	413.012 pg	21 Percent		6/25/16 19:48:00	· Co			
2,3,4,7,8-Pentachlorodibenzofuran-C13	393.545 pg	20 Percent		6/25/16 19:48:00	X)		
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	744.801 pg	19 Percent	Y*	6/25/16 19:48:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0.500 pg	Percent		6/25/16 19:48:00)			
Target Analytes	Raw Result	Final Result	Qualifiers		dj. MRL	Adj. MDL	Picked?	<u>RptLi</u>
$2,3,7,8\text{-}Tetrachlorodibenzo-p-dioxin} \ (TCDD$	0 pg	0 ng/Kg	U		.26	0.599	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0 pg	0 ng/Kg	U	6/25/16 19:48:00 2.	.26	0.795	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	2.215 pg	1.00 ng/Kg	JK	6/25/16 19:48:00 11	1.3	0.388	Y	Y
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 19:48:00 2.	.26	0.599	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	U	6/25/16 19:48:00 2.	.26	0.795	Y	Y
	- 10	0 0						
Pentachlorodibenzofurans (PeCDF), Total	3.186 pg	1.44 ng/Kg	J		1.3	0.378	Y	Y
	3.186 pg	1.44 ng/Kg	J Prep			Rpt. List: 15747		34 ver
Pentachlorodibenzofurans (PeCDF), Total	3.186 pg	1.44 ng/Kg	J	6/25/16 19:48:00 11 Spiking Solution File Name: P604002		Rpt. List: 15747	Spec: 1373	1
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A	3.186 pg As Received / Tier	1.44 ng/Kg • IV / MDL=Y	J Prep Oualifiers	6/25/16 19:48:00 11 Spiking Solution File Name: P604002		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates	3.186 pg As Received / Tier Raw Result	1.44 ng/Kg • IV / MDL=Y	Prep Qualifiers	6/25/16 19:48:00 11 Spiking Solution File Name: P604002 Analysis Date/Time		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve r
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg	1.44 ng/Kg • IV / MDL=Y Final Result	J Prep Qualifiers Y	6/25/16 19:48:00 11 Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	3.186 pg As Received / Tier Raw Result 0 pg	1.44 ng/Kg • IV / MDL=Y Final Result 23 Percent	J Prep Oualifiers Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13 2,3,7,8-Tetrachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg	1.44 ng/Kg PIV / MDL=Y Final Result 23 Percent 22 Percent	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg	1.44 ng/Kg • IV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent	J Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total 2Q1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg	1.44 ng/Kg PIV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent	J Prep Qualifiers Y Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve i
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg	1.44 ng/Kg FIV / MDL=Y Final Result 23 Percent 22 Percent 23 Percent 21 Percent 22 Percent	J Prep Qualifiers Y Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00		Rpt. List: 15747	Spec: 137 3 e Name: P60399	34 ve
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result	1.44 ng/Kg PIV / MDL=Y Final Result 23 Percent 22 Percent 21 Percent 22 Percent Percent	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00	<u>18</u>	Rpt. List: 15747 MB File Name: P603993 CCV Fil	Spec: 1373 e Name: P60399 <u>Picked?</u>	34 ver
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg	1.44 ng/Kg FIV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Final Result 82.2 ng/Kg	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 26/26/16 03:09:00 26/26/16 03:09:00 27.	dj. MRL	Rpt. List: 15747 MB File Name: P603993 CCV Fil	Spec: 1373 e Name: P60399 <u>Picked?</u> <u>Picked?</u>	84 ver
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF)	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg	1.44 ng/Kg FIV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 2. 6/26/16 03:09:00 2.	<u>di. MRL</u> .40	Rpt. List: 15747 MB File Name: P603993 CCV Fil Adj. MDL 0.446	Spec: 1373 e Name: P60399 <u>Picked?</u> <u>Picked?</u> Y	RptL RptL Y
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg 1009.184 pg	1.44 ng/Kg FIV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent Percent Final Result 82.2 ng/Kg	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 2. 6/26/16 03:09:00 2. 6/26/16 03:09:00 2.	dj. MRL .40	Rpt. List: 15747 MB File Name: P603993 CCV Fil Adj. MDL 0.446 0.574	Spec: 1373 e Name: P60399 <u>Picked?</u> <u>Picked?</u> Y	RptL Y
Pentachlorodibenzofurans (PeCDF), Total CQ1600219-02 / LCS / NonAq Liquid / A Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) 2,3,7,8-Tetrachlorodibenzofuran (TCDF) 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	3.186 pg As Received / Tier Raw Result 0 pg 469.689 pg 448.193 pg 452.986 pg 428.181 pg 879.532 pg 0.643 pg Raw Result 171.389 pg 179.591 pg 1009.184 pg	1.44 ng/Kg FIV / MDL=Y Final Result 23 Percent 23 Percent 21 Percent 22 Percent 22 Percent Percent Final Result 82.2 ng/Kg 86.1 ng/Kg 484 ng/Kg	Prep Qualifiers Y Y Y	Spiking Solution File Name: P604002 Analysis Date/Time 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 6/26/16 03:09:00 2. 6/26/16 03:09:00 2. 6/26/16 03:09:00 2. 6/26/16 03:09:00 2. 6/26/16 03:09:00 2.	dj. MRL .40 .40	Rpt. List: 15747 MB File Name: P603993 CCV Fil Adj. MDL 0.446 0.574 0.862	Spec: 1373	34 ve i

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Prep

Spiking Solutions

Rpt. List: 15747 Spec: 13734 ver. 7

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

EQ1600219-02 / LCS / NonAq Liquid / As Received / Tier IV / MDL=Y

EQ1600219-03 / DLCS / NonAq Liquid	/ As Received / T	Tier IV / MIDL=Y	<u>Prep</u>	Spiking Solut File Name: P604003		MB File Name: P603993	List: 15747 Spec: 1373 CCV File Name: P60399	
<u>Surrogates</u> 1,2,3,4-Tetrachlorodibenzofuran-C13	<u>Raw Result</u> 0 pg	<u>Final Result</u>	<u>Oualifiers</u>	<u>Analysis Date/Time</u> 6/26/16 03:58:00			<u>Picked?</u>	<u>Rp</u>
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	380.653 pg	19 Percent	Y*	6/26/16 03:58:00	AX			
2,3,7,8-Tetrachlorodibenzofuran-C13	364.866 pg	18 Percent	Y*	6/26/16 03:58:00	1/1/			
1,2,3,7,8-Pentachlorodibenzofuran-C13	423.579 pg	21 Percent	Y	6/26/16 03:58:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	407.906 pg	20 Percent	Y	6/26/16 03:58:00	<u> </u>			
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	758.698 pg	19 Percent	Y	6/26/16 03:58:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0 pg	0 Percent		6/26/16 03:58:00				
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	Rį
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	168.822 pg	83.1 ng/Kg		6/26/16 03:58:00	6.46	6.46	Y	
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	191.292 pg	94.1 ng/Kg		6/26/16 03:58:00	6.40	6.40	Y	
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	972.275 pg	478 ng/Kg		6/26/16 03:58:00	12.3	4.39	Y	
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	168.822 pg	83.1 ng/Kg		6/26/16 03:58:00	6.46	6.46	Y	
Tetrachlorodibenzofurans (TCDF), Total	191.292 pg	94.1 ng/Kg	70	6/26/16 03:58:00	6.40	6.40	Y	
Pentachlorodibenzofurans (PeCDF), Total	1867.738 pg	919 ng/Kg		6/26/16 03:58:00	12.3	4.33	Y	
E1600326-001 / 03162016SJGW1 / Non	Aq Liquid / As R	eceived / Tier IV /	/ M <u>Prep</u>	Spiking Solut File Name: P603995		Rpt. I MB File Name: P603993	List: 15747 Spec: 137 CCV File Name: P60399	
<u>Surrogates</u>	Aq Liquid / As R <u>Raw Result</u>	eceived / Tier IV /	M Prep Oualifiers	File Name: P603995				91
<u>Surrogates</u> 1,2,3,4-Tetrachlorodibenzofuran-C13	Raw Result 0 pg	Final Result	<u>Qualifiers</u>	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00			CCV File Name: P60399	91
<u>Surrogates</u> 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	Raw Result 0 pg 462.019 pg	Final Result 23 Percent	<i>Qualifiers</i> Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00			CCV File Name: P60399	91
<u>Surrogates</u> 1,2,3,4-Tetrachlorodibenzofuran-C13	Raw Result 0 pg	Final Result	<i>Qualifiers</i> Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00			CCV File Name: P60399	91
<u>Surrogates</u> 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	Raw Result 0 pg 462.019 pg	Final Result 23 Percent	<u>Qualifiers</u> Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00			CCV File Name: P60399	91
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg 412.602 pg	Final Result 23 Percent 22 Percent	Oualifiers Y Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00			CCV File Name: P60399	91
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg	23 Percent 22 Percent 22 Percent	Qualifiers Y Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00			CCV File Name: P60399	91
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg 412.602 pg	23 Percent 22 Percent 22 Percent 21 Percent	Qualifiers Y Y Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00			CCV File Name: P60399	91
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg 412.602 pg 796.103 pg 0.392 pg Raw Result	23 Percent 22 Percent 22 Percent 21 Percent 20 Percent Percent Percent	Qualifiers Y Y Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00	Adj. MRL		CCV File Name: P60399	91 <u>Ri</u>
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg 412.602 pg 796.103 pg 0.392 pg Raw Result	23 Percent 22 Percent 22 Percent 21 Percent 20 Percent Percent Percent Final Result 0 ng/Kg	Qualifiers Y Y Y Y	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 Analysis Date/Time 6/25/16 21:26:00	<u>Adj. MRL.</u> 5.00	MB File Name: P603993 Adj. MDL 1.11	CCV File Name: P60399 Picked?	91 <u>Rp</u>
Surrogates 1,2,3,4-Tetrachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13 2,3,7,8-Tetrachlorodibenzofuran-C13 1,2,3,7,8-Pentachlorodibenzofuran-C13 2,3,4,7,8-Pentachlorodibenzofuran-C13 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 2,3,7,8-Tetrachlorodibenzo-p-dioxin-C137 Target Analytes	Raw Result 0 pg 462.019 pg 438.355 pg 433.708 pg 412.602 pg 796.103 pg 0.392 pg Raw Result	23 Percent 22 Percent 22 Percent 21 Percent 20 Percent Percent Percent	Qualifiers Y Y Y Y Qualifiers	File Name: P603995 <u>Analysis Date/Time</u> 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00 6/25/16 21:26:00	Adj. MRL	MB File Name: P603993 Adj. MDL	CCV File Name: P60399 Picked? Picked?	91

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Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

E1600326-001 / 03162016SJGW1 / Non	Aq Liquid / As Red	ceived / Tier IV / M	I Prep	Spiking Solut File Name: P603995		Rpt. List: 15747 MB File Name: P603993 CCV Fil	Spec: 137 3 le Name: P60399	
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptList?
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 21:26:00	5.00	1.11	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	U	6/25/16 21:26:00	5.00	1.54	Y	Y
Pentachlorodibenzofurans (PeCDF), Total	0 pg	0 ng/Kg	U	6/25/16 21:26:00	25.0	0.668	Y	Y
E1600326-002 / 04072016SJGW1 / Non.	Aq Liquid / As Red	ceived / Tier IV / M	I Prep	Spiking Solut File Name: P603996		Rpt. List: 15747 MB File Name: P603993 CCV Fil	Spec: 137 3 le Name: P60399	
<u>Surrogates</u>	Raw Result	Final Result	Qualifiers	Analysis Date/Time			Picked?	RptList:
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/25/16 22:15:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	438.374 pg	22 Percent	Y	6/25/16 22:15:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	421.476 pg	21 Percent	Y	6/25/16 22:15:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	442.004 pg	22 Percent	Y	6/25/16 22:15:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	423.750 pg	21 Percent		6/25/16 22:15:00				
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	899.743 pg	22 Percent	Y	6/25/16 22:15:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0.390 pg	Percent		6/25/16 22:15:00				
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	<u>Adj. MDL</u>	Picked?	RptList:
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	0 pg	0 ng/Kg	Ú	6/25/16 22:15:00	5.00	0.880	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0 pg	0 ng/Kg	U	6/25/16 22:15:00	5.00	1.38	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0 pg	0 ng/Kg	U	6/25/16 22:15:00	25.0	0.665	Y	Y
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 22:15:00	5.00	0.880	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	U	6/25/16 22:15:00	5.00	1.38	Y	Y
Pentachlorodibenzofurans (PeCDF), Total	0 pg	0 ng/Kg	U	6/25/16 22:15:00	25.0	0.647	Y	Y
E1600326-003 / 04072016SJGW2 / NonA		ceived / Tier IV / M		Spiking Solut File Name: P603997		Rpt. List: 15747 MB File Name: P603993 CCV Fil	Spec: 137. de Name: P60399	
<u>Surrogates</u>	Raw Result	Final Result	Qualifiers	· · · · · · · · · · · · · · · · · · ·			<u>Picked?</u>	RptList?
1,2,3,4-Tetrachlorodibenzofuran-C13	0 pg			6/25/16 23:04:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-C13	429.453 pg	21 Percent	Y	6/25/16 23:04:00				
2,3,7,8-Tetrachlorodibenzofuran-C13	410.775 pg	21 Percent	Y	6/25/16 23:04:00				
1,2,3,7,8-Pentachlorodibenzofuran-C13	425.054 pg	21 Percent	Y	6/25/16 23:04:00				
2,3,4,7,8-Pentachlorodibenzofuran-C13	412.451 pg	21 Percent		6/25/16 23:04:00				
1,2,3,7,8,9-Hexachlorodibenzofuran-C13	865.210 pg	22 Percent	Y	6/25/16 23:04:00				
2,3,7,8-Tetrachlorodibenzo-p-dioxin-Cl37	0.742 pg	Percent		6/25/16 23:04:00				

[#] indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

HOUSTON

Semivoa GCMS E-HRMS-08

504,016

Calibration ID: 06/25/16

1613B / Dioxins Furans

E1600326-003 / 04072016SJGW2 / NonAq Liquid / As Received / Tier IV / Ml Prep			Prep	Spiking Solut File Name: P603997		Rpt. List: 15747 Spec: 13734 ver. 7 MB File Name: P603993 CCV File Name: P603991		
Target Analytes	Raw Result	Final Result	Qualifiers	Analysis Date/Time	Adj. MRL	Adj. MDL	Picked?	RptList?
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD	0 pg	0 ng/Kg	U	6/25/16 23:04:00	5.00	1.08	Y	Y
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0 pg	0 ng/Kg	U	6/25/16 23:04:00	5.00	1.45	Y	Y
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0 pg	0 ng/Kg	U	6/25/16 23:04:00	25.0	0.838	Y	Y
Tetrachlorodibenzo-p-dioxins (TCDD), Tota	0 pg	0 ng/Kg	U	6/25/16 23:04:00	5.00	1.08	Y	Y
Tetrachlorodibenzofurans (TCDF), Total	0 pg	0 ng/Kg	U	6/25/16 23:04:00	5.00	1.45	Y	Y
Pentachlorodibenzofurans (PeCDF), Total	0 pg	0 ng/Kg	U	6/25/16 23:04:00	25.0	0.825	Y	Y

San Jacinto River Waste Pits Monthly Progress Report No. 80

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ANCHOR OEA integral ronsulting inc.

Date: 07-15-2016
CERCLA Docket No. 06-03-10 Data Files
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